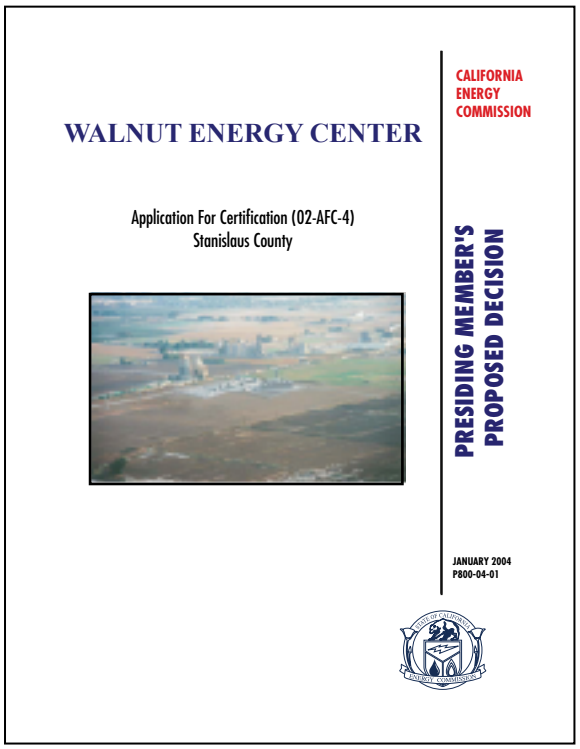
CALIFORNIA
ENERGY
COMMISSION

# WALNUT ENERGY CENTER

## Application For Certification (02-AFC-4)
## Stanislaus County

# PRESIDING MEMBER'S PROPOSED DECISION

JANUARY 2004
P800-04-01

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# INTRODUCTION

## A. SUMMARY OF THE DECISION

This Decision contains the Committee's rationale in determining that the Turlock Irrigation District's (TID) proposed Walnut Energy Center (WEC) complies with all applicable laws, ordinances, regulations, and standards, and may therefore be licensed. It is based exclusively upon the record established during this certification proceeding and summarized in this document. We have independently evaluated the evidence, provided references to the record[1] supporting our findings and conclusions, and specified the measures required to ensure that the WEC is designed, constructed, and operated in the manner necessary to protect public health and safety, promote the general welfare, and preserve environmental quality.

The WEC is a nominal 250-megawatt (MW), natural gas-fired, combined-cycle generating facility located west of the downtown portion of the City of Turlock, in Stanislaus County. The WEC will be located on an 18-acre site within an 69-acre parcel located about 2,000 feet southeast of the intersection of West Main Street and Washington Road within the City of Turlock.

The project will provide additional generation to meet TID's growing load, as well as the demands of customers within about 200 square miles of new service territory that TID is proposing to acquire from Pacific Gas and Electric Company (PG&E). The plant will also replace the generation which will be lost due to the expiration of long-term power purchase agreements currently held by TID.

[1] The Reporter's Transcript of the evidentiary hearings is cited as "RT, page __." The exhibits included in the evidentiary record are cited as "Ex. number." A list of all exhibits is contained in Appendix C of this Decision.

TID anticipates commencing construction of the WEC in the first quarter of 2004 and, based on a 24-month construction schedule, plans to begin full operations no later than the second quarter of 2006. During the peak construction period, the project will provide a maximum of 277 construction jobs. During operation, the project will employ approximately 21 permanent full-time employees. Applicant estimates the capital costs associated with the project to be $160 to $220 million.

The project includes 1.6 miles of new 12 to 24 inch diameter pipeline which will supply tertiary treated recycled waste water, to be used as plant cooling water, from the City of Turlock's Regional Wastewater Treatment Plant (WWTP), located east of the project site. The WWTP is scheduled to be online by May 2006. The project will use potable water from the City of Turlock as a "bridge supply" for cooling water. This will be provided through a new 0.9-mile pipeline during the interim months until recycled water from the WWTP is available. After the recycled water supply is available, potable water will be used only for plant service and fire protection needs.

Several governmental agencies, such as the City of Turlock, Stanislaus County, the California Independent System Operator, and the San Joaquin Valley Unified Air Pollution Control District cooperated with the California Energy Commission (Commission) in completing this review process.

## B. SITE CERTIFICATION PROCESS

The WEC and its related facilities are subject to Commission licensing jurisdiction. (Pub. Resources Code, § 25500 et seq.). During licensing proceedings, the Commission acts as lead state agency under the California Environmental Quality Act (Pub. Resources Code, §§ 25519 (c), 21000 et seq.). The Commission's regulatory process, including the evidentiary record and associated analyses, is functionally equivalent to the preparation of an

Environmental Impact Report. (Pub. Resources Code, § 21080.5.) The process is designed to complete the review within a specified time period; a license issued by the Commission is in lieu of other state and local permits.

The Commission's certification process provides a thorough review and analysis of all aspects of the proposed power plant project. During this process, we conduct a comprehensive examination of a project's potential economic, public health and safety, reliability, engineering, and environmental ramifications. Section 25523(h) of the Public Resources Code also requires a discussion of the project's benefits. We address this issue in the **Socioeconomics** section of the Decision in which we find that the WEC will provide local economic benefits and energy reliability to the Central Valley and Turlock areas.

The Commission's process encourages public participation so that members of the public may become involved either informally or, on a more formal level, as Intervenors with an opportunity to present evidence and cross-examine witnesses. The only formal Intervenor was the California Unions for Reliable Energy (CURE).

The process begins when an Applicant submits the AFC. Commission staff reviews the data submitted as part of the AFC and recommends to the Commission whether the AFC contains adequate information to begin the review. Once the Commission determines an AFC contains sufficient analytic information, it appoints a Committee of two Commissioners to conduct the licensing process.

The initial portion of the certification process is weighted heavily toward assuring public awareness of the proposed project and obtaining such technical information as is necessary. During this time, the Commission staff sponsors numerous public workshops at which Intervenors, agency representatives, and members of the public meet with Staff and Applicant to discuss, clarify, and

negotiate pertinent issues. Staff publishes its initial technical evaluation of a project in a document called the Preliminary Staff Assessment (PSA), which is made available for public comment. Staff's responses to public comment on the PSA and its complete analyses are then published in the Final Staff Assessment (FSA).

Following this, the Committee conducts a Prehearing Conference to assess the adequacy of available information, identify issues, and determine the positions of the parties. Based on information presented at this event, the Committee issues a Hearing Order and schedules formal evidentiary hearings. At these hearings, all entities that have formally intervened as parties may present sworn testimony, which is subject to cross-examination by other parties and questioning by the Committee. Members of the public who have not intervened may present public comments. Evidence adduced during these hearings provides the basis for the Presiding Member's Proposed Decision (PMPD). In the PMPD, the Committee evaluates the evidence presented, determines a project's conformity with applicable laws, ordinances, regulations, and standards, and provides recommendations to the full Commission.

The PMPD is available for a 30-day public comment period. Depending upon the extent of revisions necessary after considering comments received during this period, the Committee may elect to publish a revised version. If so, this Revised PMPD triggers an additional 15-day public comment period. Finally, the full Commission decides whether to accept, reject, or modify the Committee's recommendations at a public hearing.

Throughout the licensing process members of the Committee, and ultimately the Commission, serve as fact-finders and decision-makers. Other parties, including the Applicant, Commission staff, and formal Intervenors function independently and with equal legal status. An "ex parte" rule prohibits parties from communicating on substantive matters with the decision-makers, their staffs, or

assigned hearing officer unless these communications are made on the public record. The Office of the Public Adviser is available to inform members of the public concerning the certification proceedings and to assist those interested in participating.

## C. PROCEDURAL HISTORY

The Public Resources Code (sections 25500 et seq.) and Commission regulations (Cal. Code of Regs., tit. 20, § 1701, et seq.) mandate a public process and specify the occurrence of certain necessary events. The key procedural events that occurred in the present case are summarized below.

On November 19, 2002, TID filed an AFC with the Commission. On December 18, 2002, the Commission accepted the AFC as data adequate and commenced the review process. It also assigned a Committee of two Commissioners to conduct proceedings.

On December 19, 2002, the Committee issued a notice of "Informational Hearing and Site Visit." The notice was mailed to members of the community who were known to be interested in the project, including the owners of land adjacent to or in the vicinity of the WEC. The notice was also published in a local general circulation newspaper.

The Committee conducted the Informational Hearing and Site Visit in the City of Turlock on January 24, 2003. At that event the Committee, the parties, and other participants discussed the proposal for developing the WEC, described the Commission's review process, and explained opportunities for public participation. The participants also viewed the site where the WEC will be situated. On January 29, 2003, the Committee issued a Scheduling Order.

As part of the review process, Staff conducted public workshops on June 17, and 20, 2003, and on August 28, 2003, to discuss issues of concern with the Applicant, governmental agencies, and interested members of the public. Staff issued the first part of its Final Staff Assessment (FSA) on August 22, 2003, followed with a supplement on August 29, 2003.

The Committee, by Notice dated June 2, 2003, scheduled a Prehearing Conference for June 20, 2003, which was later cancelled and rescheduled to June 23, 2003. On August 25, 2003, the Committee held the first public Evidentiary Hearing which was followed by the second Prehearing Conference. On September 10, 2003, the Committee scheduled further evidentiary presentations and legal arguments. These were presented on September 29, 2003, and October 9, 2003. Disputed issues arose in the topics of **Air Quality**, **Compliance**, and **Land Use**.

After reviewing the evidentiary record and exhibits, the Committee published the PMPD on January 14, 2004, and scheduled a Committee Conference for February 10, 2004 to discuss comments submitted. The 30-day comment period on the PMPD ended February 17, 2004. The Commission considered the PMPD at its February 18, 2004 Business Meeting.

# I. PROJECT DESCRIPTION AND PURPOSE

Turlock Irrigation District (TID or Applicant) proposes to construct and operate an energy generating facility known as the Walnut Energy Center (WEC) in the City of Turlock (Stanislaus County). The WEC is a gas-fired, combined-cycle power plant which will generate a nominal 250 megawatts (MW). The project will occupy 18 acres within a 69-acre parcel located in an industrially-zoned area, about 4 miles west of the downtown portion of the City of Turlock. The site is located southeast of the intersection of West Main Street and South Washington Road **(See Project Description Figure 1)**. The project site will accommodate generation facilities, an advanced water treatment facility, administration and control building, emission control equipment, storage tanks, parking area, and one or more stormwater detention ponds. Construction worker parking and the laydown area will be temporarily located on portions of the remaining 51 acres of the 69-acre parcel. (8/25/03 RT 13, 16; Ex. 1; Ex. 11, pp. 3-1 to 3-6.) After construction is complete, the 51 acre portion will be returned to agricultural use.

## POWER PLANT

The WEC will consist of two General Electric Frame 7EA combustion turbine generators (CTGs) equipped with dry, low oxides of nitrogen ($NO_x$) combustors; two heat recovery steam generators (HRSGs); one condensing steam turbine generator (STG); a de-aerating surface condenser; a five-cell mechanical-draft cooling tower; and associated support equipment. Each CTG will generate approximately 84 MW at baseload under average ambient conditions. The CTG exhaust gases will be used to generate steam in the HRSGs. Steam from the HRSGs will enter a steam turbine. Approximately 100 MW will be produced by the steam turbine when the CTGs are operating at baseload at average ambient conditions. The project is expected to have an overall annual availability of 92 to 98 percent. (Ex. 11, p. 3-1.)

$NO_x$ emissions from WEC will be controlled to 2.0 parts per million by volume (ppmv), dry basis, corrected to 15 percent oxygen, by a combination of low $NO_x$ combustors in the CTGs and selective catalytic reduction (SCR) systems in the HRSGs. The SCR system consists of a reduction catalyst and an anhydrous ammonia injection system. In addition, an oxidation catalyst will be installed in the HRSGs to limit stack carbon monoxide (CO) emissions to 4.0 ppm. (8/25/03 RT 15-16; Ex. 11, p. 3-5.)

**ASSOCIATED FACILITIES**

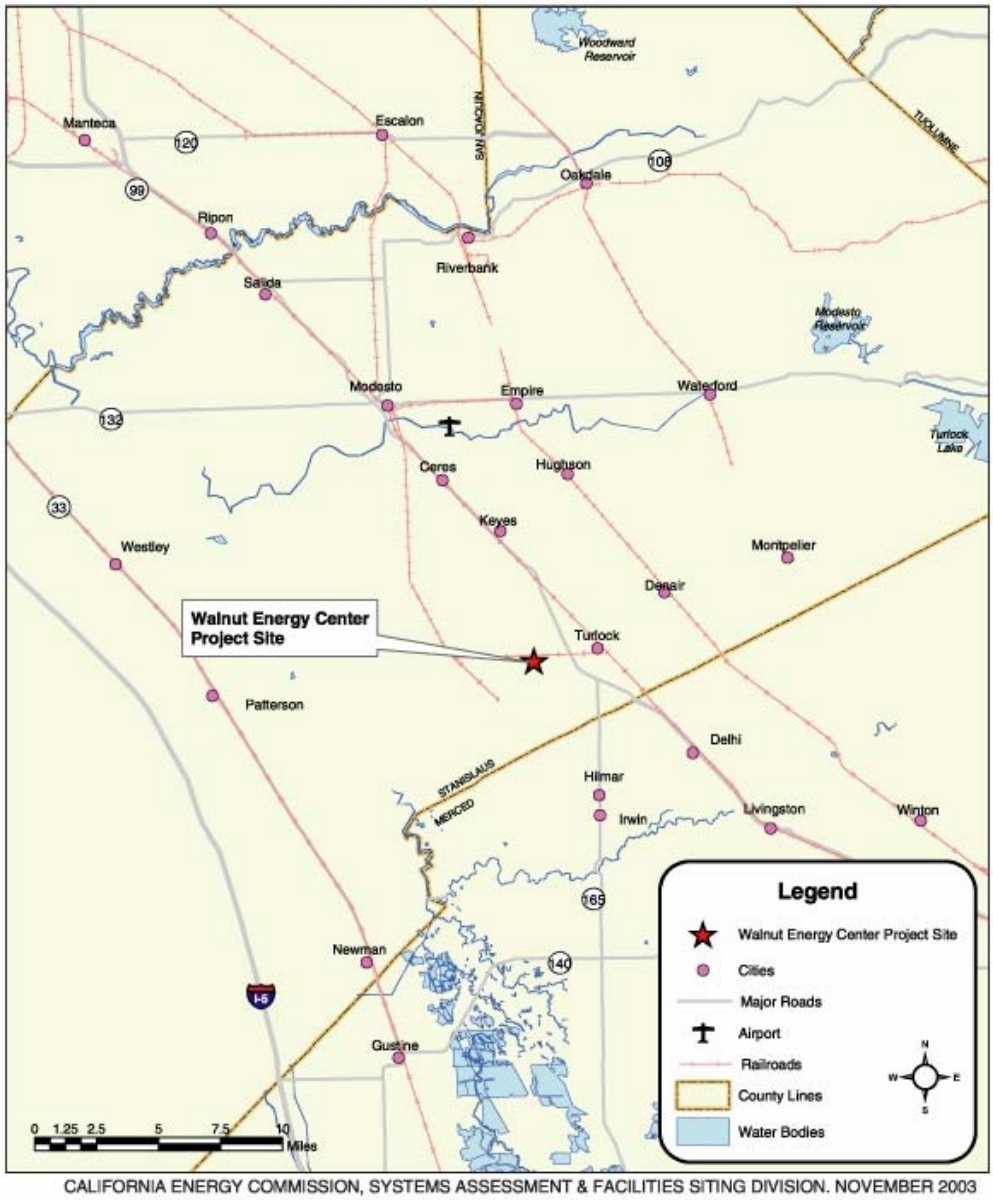
Natural gas will be delivered to the site via a new eight inch-diameter, 3.6-mile long pipeline. This pipeline will extend from its interconnection at Pacific Gas and Electric's (PG&E) Line 215 (at West Bradbury Road), north approximately 2.8 miles along Commons Road, until it reaches the railroad tracks where it will turn east to the site.

The power plant will be connected to TID's transmission system by looping both a 69 and a 115 kV line into the WEC. At the 69 kV level, this will be accomplished by intercepting the existing 69 kV transmission line, located immediately south of the proposed site, and installing a double-circuit pole line into the WEC's 69 kV switchyard. At the 115 kV level, this will be accomplished by intercepting one of two existing 115 kV transmission lines that run along the west side of South Washington Road, and installing a double-circuit pole line into the WEC's 115 kV switchyard. (8/25/03 RT 15, 17; Ex. 11, p. 3-6.)

The project will use up to 1,800 acre feet per year (afy) of recycled water, provided by the City of Turlock's Wastewater Treatment Plant (WWTP), for cooling tower and steam cycle water make-up. This recycled water will be produced by new treatment facilities which will be built at Turlock's existing WWTP.

**PROJECT DESCRIPTION - FIGURE 1**

Walnut Energy Center - Regional Setting




CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION. NOVEMBER 2003

SOURCE: California Energy Commission Statewide Transmission & Power Plant Maps 2003

The recycled water will be delivered through a new 12- to 24-inch pipeline, approximately 1.6 miles in length. This pipeline will be routed from the boundary of the Turlock WWTP on South Kilroy Road, and run generally west to the project.

The Regional Water Quality Control Board (RWQCB) has mandated that Turlock's water treatment facilities be operational by May 2006. Since TID anticipates that the WEC may commence operations as early as the fourth quarter of 2005, TID proposes to use potable water from the City to meet water demands until the recycled water is available. A new 8- to 12-inch pipeline, approximately 0.9-miles in length, will therefore be constructed to deliver potable water to the WEC from an existing main located in South Tegner Road, east of the project. The connection to the City's existing line will be near the intersection of South Tegner Road and Ruble Road, and the pipeline will be installed in the Ruble Road right-of-way and proceed west to the plant site. Once recycled water is available, potable water for drinking, safety showers, fire protection water, service water, and sanitary uses will continue to be supplied from the potable water system. Sanitary wastewater will be disposed of via an on-site septic system and leach field. (8/25/03 RT 17; Ex. 11, p. 3-5.) The routes of the linear facilities are shown in **Project Description, Figure 2**.

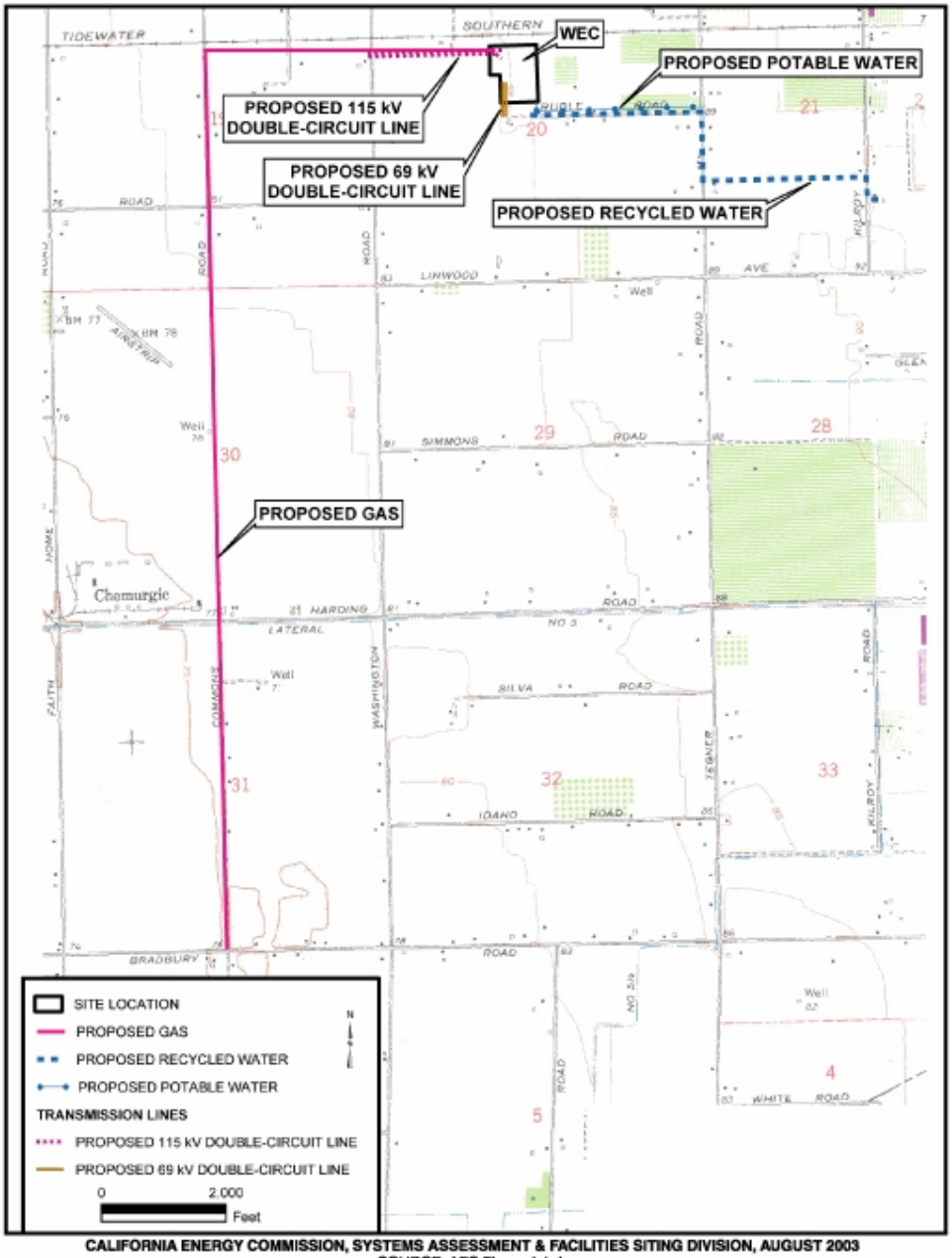
The WEC will use a zero-liquid discharge (ZLD) system to recycle cooling tower blowdown on-site. A portion of the distillate generated from the ZLD process will be further treated by off-site regenerated mixed bed demineralizers and used as steam-cycle makeup water. Distillate from the ZLD treatment system will be used to provide all of the steam-cycle makeup water.

## CONSTRUCTION AND OPERATION

Applicant expects project construction to begin in the first quarter of 2004 and take approximately 24 months. Commercial operation is expected to begin in the

fourth quarter of 2005 or the first quarter of 2006. (Ex. 11, p. 3-6.) The construction force necessary for the WEC is expected to peak at approximately 277 workers in month 15 of the construction period. Once the plant is on-line, approximately 21 full-time employees will be needed for operations. The capital cost of WEC is expected to be between $160 and $220 million.

**PROJECT DESCRIPTION - FIGURE 2**
Walnut Energy Center - Local Setting




**CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, AUGUST 2003**
SOURCE: AFC Figure 1.1-4

## PROJECT PURPOSES AND OBJECTIVES

The Applicant's stated objectives (8/25/03 RT 14-15; Ex. 1, pp. 1-2 to 1-3, 9.3; Ex. 11, p. 6-2) for constructing the WEC project are:

- To safely construct and operate a nominal 250-MW, natural gas-fired, combined-cycle generating facility within the TID service territory.
- To provide additional generation to meet TID's growing load and meet the demands of customers within approximately 200 square miles of PG&E's service territory. [This service territory acquisition has been approved by the California Public Utilities Commission (CPUC) and the bankruptcy court.]
- To provide additional generation within TID to replace the expiration of significant long-term power purchase agreements.
- To increase the possibility of TID becoming a control area, or joining a different control area, both of which would require TID to have additional generation.
- To assist the State of California in developing increased local generation projects, thus reducing dependence on imported power.
- To contribute to the diversification of the County's economic base by providing increased employment opportunities and a reliable power supply.

## FACILITY CLOSURE

The planned life of the WEC facility is 30 years or longer. Whenever the facility is closed, either temporarily or permanently, the closure procedures included in this Decision will ensure compliance with applicable laws, ordinances, regulations, and standards (LORS).

## FINDINGS AND CONCLUSIONS

Based upon the evidentiary record, we find as follows:

1. TID will own and operate the WEC project.

2. The WEC project involves the construction and operation of a nominal 250-megawatt natural gas-fired, combined-cycle electrical generating facility in Turlock, California.

3. The project includes a 3.6-mile natural gas pipeline; two new double-circuit overhead transmission lines, extending approximately 1,950 and 670 feet, to loop the Walnut-Hilmar 115 kV and the Walnut Industrial 69 kV Line 2 transmission lines; a 1.6-mile recycled water line; and a 0.9-mile domestic water line.

4. The project and its objectives are adequately described by the relevant documents contained in the record.

5. The project will permanently occupy approximately 18 acres of a 69 acre site.

We therefore conclude that the WEC project is described at a level of detail sufficient to allow review in compliance with the provisions of both the Warren-Alquist Act and the California Environmental Quality Act.

# II. PROJECT ALTERNATIVES

The California Environmental Quality Act (CEQA) Guidelines and the Commission's regulations require an evaluation of the comparative merits of a range of site and facility alternatives, including the "no project' alternative, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the project's significant adverse effects[2]. [14 Cal. Code of Regs., § 15126.6(c).] The range of alternatives that we are required to consider is governed by a "rule of reason."

Applicant provided an "alternatives analysis" as part of its AFC (Ex. 1, Section 9.0.) describing its selection process for the proposed site and project configuration in light of the project objectives. Staff also conducted a similar analysis which is included in the FSA. The parties expressed no disagreement over the substantive issues covered in this topic area. At the request of the Committee, witnesses did provide limited oral testimony. (9/29/03 RT 231-239.)

**SUMMARY AND DISCUSSION OF THE EVIDENCE**

The evidence characterizes the project objectives as previously described on page 13 of this Decision.

In order to assess the feasibility of alternatives to the project in light of the stated objectives, Staff's analysis:

- identified the basic objectives of the project, provided an overview, and described its potential significant adverse impacts;

[2] Based on the totality of the record and as reflected in our discussion and findings for each of the technical topic areas the WEC, as mitigated, will not result in significant adverse effects on the environment. We include the analysis of project alternatives to ensure that our certification review conforms with requirements of the CEQA Guidelines and the Energy Commission's regulations.

- identified and evaluated alternative sites in terms of whether the alternative site mitigated identified impacts of the proposed project and whether the alternative site created impacts of its own;
- identified and evaluated technology alternatives to the project, including conservation and other renewable sources; and
- evaluated the impacts of not constructing the project, known as the No Project Alternative under CEQA. (Ex. 11, p. 6-1.)

1. Alternative Sites

The evidence contains an evaluation of the locations shown on **Alternatives, Figure 1.** Staff applied evaluation criteria for each of the five sites to determine whether each alternative site would provide:

- ability to gain site control;
- availability of sufficient land area;
- proximity to existing transmission and distribution lines, and proximity to an existing substation;
- proximity to recycled water supply;
- proximity to PG&E's main gas pipeline;
- adjacent to a rail line to facilitate rail delivery of heavy equipment;
- consistency with the City and County General Plans and zoning ordinances, height restrictions, and existing land uses;
- the ability, with implementation of reasonable mitigation measures, to have a less-than-significant impact on the environment;
- location in area appropriate for industrial development; and
- location within TID's service territory.

In each instance, the evidence establishes that the alternative sites would have similar, if not additional, impacts when compared to the proposed site[3]. (Ex. 11, pp. 6-4 to 6-9.)

2. Alternative Technologies

The evidence contains an examination of four alternative generation technologies: solar; wind; biomass; and hydropower. (Ex. 1, p. 9.7; Ex. 11, pp. 6-10 to 6-13.)

Currently available solar generation is of two types: solar thermal power and photovoltaic (PV) power. Solar thermal is suitable for distributed or centralized generation, but requires far more land than conventional natural gas power plants. Solar parabolic trough systems, for instance, use approximately 5 acres to generate one megawatt. (Ex. 11, p. 6-11.) Photovoltaic (PV) generation uses special semiconductor panels to convert sunlight into electricity. Arrays built from the panels can be mounted on the ground or on buildings, where they can also serve as roofing material. Unless PV systems are constructed as integral parts of buildings, the most efficient PV systems require about 4 acres of ground area per megawatt of generation.

Solar resources would thus require large land areas in order to generate 250 MW of electricity. Specifically, a 250 MW central receiver solar thermal project would require approximately 1,250 acres. Using PV to produce 250 MW would require approximately 850 acres. Either of these technologies would use significantly more land area than the 18 acres required for the WEC, as well as likely create greater biological and visual impacts.

[3] Staff's alternatives analysis assumed that all its recommended mitigation measures were adopted, including compensation for the conversion of 18 acres of agricultural land. (9/29/03 RT 235-237.) This matter is discussed in the **LAND USE** section of this Decision.

# ALTERNATIVES – FIGURE 1

Although air emissions are significantly reduced or eliminated by using wind facilities, they can have significant visual effects. In addition, wind turbines can cause bird mortality (especially for raptors) resulting from collision with rotating blades. Wind resources would also require large land areas in order to generate 250 MW of electricity. Depending on the size of the wind turbines, wind generation "farms" generally require between 5 and 17 acres to generate one megawatt. This results in the need for between 1,250 and 4,200 acres to generate 250 MW. (Ex. 11, p. 6-12.)

Biomass generation uses a waste vegetation fuel source such as wood chips (the preferred source) or agricultural waste. The fuel is burned to generate steam. However, Staff's testimony indicates that biomass facilities generate substantially greater quantities of air pollutant emissions than natural gas burning facilities. In addition, biomass plants are typically sized to generate less than 20 MW, which is substantially less than the capacity planned for the WEC project. (Ex. 1, p. 9-22; Ex. 11, p. 6 12.)

While hydropower does not require burning fossil fuels and may be available, this power source can cause significant environmental impacts primarily due to the inundation of many acres of potentially valuable habitat and the interference with fish movements during their life cycles. Because of these impacts, it is extremely unlikely that new hydropower facilities will be developed and permitted in California within the next several years. (Ex. 1, p. 9-22; Ex. 11, pp. 6-12 to 6-13.)

Therefore, none of the alternative technologies analyzed appear able to provide load serving capability needed to provide a reliable supply of electricity and thus fulfill a basic project objective. (Ex. 11, p. 6-13.)

3. No Project Alternative

The purpose for this portion of the analysis of record is:

> "… to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project." [14 Cal. Code Regs., § 15126.6(e)(1).]

If the WEC facility were not constructed, the proposed site would likely continue to be leased for agricultural production. Fresh water use for irrigating the agricultural land would continue to be higher than that needed to support the WEC since it uses reclaimed water. Moreover, if the WEC were not constructed, it would not contribute to California's electricity resources, increase competition, and help form a more reliable electric system that meets the goals of the deregulated energy market. Due to market forces, the proposed facility may also serve to reduce reliance on older, less efficient, gas-fired energy facilities. (Ex. 11, p. 6-9.) Most significantly, however, the evidence does not support the existence of an unmitigated significant impact which would be caused by the WEC. Therefore, the No Project alternative would not lessen any attendant impacts.

**FINDINGS AND CONCLUSIONS**

Based upon the totality of the evidence of record, including that relating to each subject area contained in other portions of this Decision, we find and conclude as follows:

1. The evidence of record contains an acceptable analysis of a reasonable range of alternatives to the project as proposed.
2. The evidentiary record contains an adequate review of alternative sites, linear routings, technologies, and the "no project" alternative.

3. Technology alternatives such as solar, wind, biomass, or hydropower are not capable of meeting project objectives.

4. No alternative to the project is capable of meeting the stated project objectives.

5. The “no project” alternative would not avoid or substantially lessen potentially significant environmental impacts since no unmitigable impacts have been established.

6. The “no project” alternative would not provide electrical system benefits.

7. If all Conditions of Certification contained in this Decision are implemented, construction and operation of the WEC will not create any significant direct, indirect, or cumulative adverse environmental impacts.

We conclude, therefore, that the evidence of record contains a sufficient analysis of alternatives and complies with the requirements of the California Environmental Quality Act, the Warren-Alquist Act, and their respective regulations. No Conditions of Certification are required for this topic.

# III. COMPLIANCE AND CLOSURE

Public Resources Code section 25532 requires the Commission to establish a post-certification monitoring system. The purpose of this requirement is to assure that certified facilities are constructed and operated in compliance with applicable laws, ordinances, regulations, and standards, as well as the specific Conditions of Certification adopted as part of this Decision.

**SUMMARY AND DISCUSSION OF THE EVIDENCE**

The Commission verifies compliance with the Conditions of Certification contained in this Decision through mechanisms such as periodic reports and site visits. The Compliance Plan (Plan) is the administrative mechanism by which the Commission ensures that the WEC is constructed and operated according to the Conditions of Certification. It essentially describes the respective duties and expectations of TID and the Staff Compliance Project Manager (CPM) in implementing the design, construction, and operation criteria set forth in this Decision. The Plan also contains requirements governing the planned closure, as well as the unexpected temporary or permanent closure, of the project. The evidence of record contains a full explanation of the purposes and intent of the Plan.

The Plan has two broad elements. The first element is the "General Conditions." These General Conditions:

1. Set forth the duties and responsibilities of the CPM, TID, delegate agencies, and others;
2. Set forth the requirements for handling confidential records and maintaining the compliance record;
3. Establish procedures for settling disputes and making post-certification changes;
4. State the requirements for periodic compliance reports and other administrative procedures necessary to verify the compliance status of all Commission-imposed conditions; and
5. Establish requirements for facility closure.

The second general element of the Plan contains the specific "Conditions of Certification." These are found following the summary and discussion of each individual topic area in this Decision. The individual conditions contain the measures required to mitigate to an insignificant level potentially adverse project impacts associated with construction, operation, and closure. Each condition also includes a verification provision describing the method of assuring that the condition has been satisfied. The contents of the Compliance Plan are intended to be read in conjunction with any additional requirements contained in the individual Conditions of Certification. (Ex. 11, pp. 7-1 to 7-21.)

While most of the contents of the Plan were non-controversial, the parties disagreed over General Condition **COM-8.** The Committee therefore took evidence and heard legal argument on this matter at the October 9, 2003 evidentiary hearing.

It is clear that both Applicant and Staff share the common goal of assuring facility safety. (Applicant's Opening Brief, p. 32.) To achieve this goal, condition **COM-8** requires the development of Security Plans for project construction and operation. Despite this general agreement, however, the parties disagree over how to properly achieve this goal. The essential dispute centers around Staff's role concerning the Security Plans. While Staff believes it should review and approve the plans, Applicant asserts that the proper Staff role is to review and comment upon the plans. (10/9/03 RT 23, 32; Applicant's Opening Brief, p. 33.)

Applicant's position is that plant security is a local issue, best addressed and coordinated locally; requiring approval of Security Plans by Staff essentially adds an unnecessary level of review which could lead to delay and/or increased costs. (10/9/03 RT 12-16, 20, 23; Applicant's Reply Brief, p. 21.) To buttress its basic position, Applicant argues that the Commission lacks the legal authority to approve Security Plans, Staff has no relevant experience or expertise, there are no available objective standards by which to judge the adequacy of Security Plans, and there is no appeal process in the event informal dispute resolution between Applicant and Staff fails. (10/9/03 RT 24-25, 35-36, 46-47, 136-138, 141-142, 146, 152; Applicant's Opening

Brief, pp. 33-37, 39; Reply Brief, pp. 21-22.) Applicant does, however, welcome and encourage collaboration with Staff in developing Security Plans for the project. (10/9/03 RT 22-23, 47-48.)

Staff argues that the Commission's authority to assure public health and safety under Public Resources Code section 25523(a) necessarily encompasses the responsibility to approve power plant Security Plans. Moreover, Staff points out that only those trained and experienced in security matters will review the plans, that the contents of the plans are necessarily flexible to accommodate a variety of approaches and plant specific concerns, and that the existing procedures adequately protect against conflicts of interest and provide for appeals from Staff determinations. Moreover, If necessary, these existing appeal procedures can be tailored to prevent public disclosure of a plan's contents. (10/9/03 RT 75-76, 83, 109-113, 117-118, 128-129, 133, 145-147; Staff's Opening Brief, pp. 8-11; Reply Brief, pp. 7-9.) Staff clarified that it did not intend that construction activities halt pending approval of the operational Security Plan, and affirmed its commitment to collaborate with Applicant, at the outset, in developing the Security Plans. (10/9/03 RT 72, 78-79, 125-127.)

After carefully considering the evidence and arguments presented on this issue, we are persuaded by Staff's presentations. The concerns over infrastructure security and our responsibility to assure public health and safety intersect at this time, and we believe our responsibility under the applicable statute extends to ensuring plant security. This responsibility is especially clear to the extent necessary to prevent deleterious off-site consequences such as those which, for example, could accompany a release of acutely hazardous materials. We are unpersuaded by Applicant's apparent reservations concerning the expertise and experience of Staff personnel engaged in the review process. Condition **COM-8** clearly requires that trained and experienced Staff review these plans. We assume that appropriately qualified personnel will perform the task, just as we assume qualified Staff members perform analyses in all other disciplines.

We are also persuaded by the testimony that infrastructure security is an evolving topic, one which prevents the establishment of specific criteria universally applicable to all projects. Applicant has indicated that early collaboration with Staff in developing the

required Security Plans would relieve many of its concerns, and Staff has agreed to such collaboration. (10/9/03 RT 47, 72.) We trust that good faith efforts by both parties will prevent problems from occurring. Next, we note that the existing dispute resolution procedure provides for an appeal of Staff determinations. (Ex. 11, p. 7-15.) This process is in place, and has functioned well in the past. We see no reason to assume it would not do so in the future. Finally, we note that we are not subjecting this Applicant to any review or approval substantively different from that required in other cases. Staff's approval of the plans is substantially the same as similar requirements appearing in recent Commission Decisions. (10/9/03 RT 69-70, 88, 128.)

We have therefore retained Staff approval of Security Plans as an element of Condition **COM-8**. We have also reviewed Applicant's proposed clarifications (10/9/03 RT 27-32; Ex. 45, pp. 44-47) as well as Staff's revisions (Ex. 47) in modifying appropriate language to clarify the requirements of **COM-8**.

**FINDINGS AND CONCLUSIONS**

The evidence of record establishes:

1. The Compliance Plan and the specific Conditions of Certification contained in this Decision assure that the Walnut Energy Center will be designed, constructed, operated, and closed in conformity with applicable law.
2. Requirements contained in the Compliance Plan and in the specific Conditions of Certification are intended to be read in conjunction with one another.
3. Hostile actions affecting the WEC could result in off-site consequences adversely impacting public health and safety.
4. Security Plans are necessary to assure appropriate measures are implemented at this power generating facility.
5. It is appropriate that the Commission review and approve this facility's Security Plans.

We therefore conclude that the compliance and monitoring provisions incorporated as a part of this Decision satisfy the requirements of Public Resources Code Section 25532.

Furthermore, we adopt the following Compliance Plan and General Conditions of Certification as part of this Decision.

## GENERAL CONDITIONS OF CERTIFICATION

## DEFINITIONS

To ensure consistency, continuity, and efficiency, the following terms, as defined, apply to all technical areas, including Conditions of Certification:

### Site Mobilization

Moving trailers and related equipment onto the site, usually accompanied by minor ground disturbance, grading for the trailers and limited vehicle parking, trenching for construction utilities, installing utilities, grading for an access corridor, and other related activities. Ground disturbance, grading, etc. for site mobilization are limited to the portion of the site necessary for placing the trailers and providing access and parking for the occupants. Site mobilization is for temporary facilities and is, therefore, not considered construction.

### Ground Disturbance

On-site activity that results in the removal of soil or vegetation, boring, trenching, or alteration of the site surface. This does not include driving or parking a passenger vehicle, pickup truck, or other light vehicle, or walking on the site.

### Grading

On-site activity conducted with earth-moving equipment that results in alteration of the topographical features of the site such as leveling, removal of hills or high spots, or moving soil from one area to another.

### Construction

[From section 25105 of the Warren-Alquist Act.] Onsite work to install permanent equipment or structures for any facility. Construction does **not** include the following:

a) the installation of environmental monitoring equipment;

b) a soil or geological investigation;

c) a topographical survey;

d) any other study or investigation to determine the environmental acceptability or feasibility of the use of the site for any particular facility; or

e) any work to provide access to the site for any of the purposes specified in a., b., c., or d, above.

## Start of Commercial Operation[4]

For compliance monitoring purposes, "commercial operation" is that phase of project development which begins after the completion of start-up and commissioning, where the power plant has reached steady-state production of electricity with reliability at the rated capacity. For example, at the start of commercial operation, plant control is usually transferred from the construction manager to the plant operations manager.

## COMPLIANCE PROJECT MANAGER RESPONSIBILITIES

A Compliance Project Manager (CPM) will oversee the compliance monitoring and shall be responsible for:

1. ensuring that the design, construction, operation, and closure of the project facilities are in compliance with the terms and conditions of the Energy Commission Decision;
2. resolving complaints;
3. processing post-certification changes to the Conditions of Certification, project description, and ownership or operational control;
4. documenting and tracking compliance filings; and
5. ensuring that the compliance files are maintained and accessible.

The CPM is the contact person for the Energy Commission and will consult with appropriate responsible agencies and the Energy Commission when handling disputes, complaints, and amendments.

All project compliance submittals are submitted to the CPM for processing. Where a submittal required by a Condition of Certification requires CPM approval, the approval will involve all appropriate Staff and management.

The Energy Commission has established a toll free compliance telephone number of **1-800-858-0784** for the public to contact the Energy Commission about power plant construction or operation-related questions, complaints, or concerns.

## Pre-Construction and Pre-Operation Compliance Meeting

The CPM may schedule pre-construction and pre-operation compliance meetings prior to the projected start-dates of construction, plant operation, or both. The purpose of these meetings will be to assemble both the Energy Commission's and the project

[4] A different definition of "Start of Commercial Operation," may be included in the **Air Quality** (AQ) section (per District Rules or Federal Regulations). In that event, the definition included in the AQ section would only apply to that section.

owner's technical staff to review the status of all pre-construction or pre-operation requirements contained in the Energy Commission's Conditions of Certification to confirm that they have been met, or if they have not been met, to ensure that the proper action is taken. In addition, these meetings shall ensure, to the extent possible, that Energy Commission conditions will not delay the construction and operation of the plant due to oversight and to preclude any last minute, unforeseen issues from arising. Pre-construction meetings held during the certification process must be publicly noticed unless they are confined to administrative issues and processes.

## Energy Commission Record

The Energy Commission shall maintain as a public record, in either the Compliance file or Docket file, for the life of the project (or other period as required):

6. all documents demonstrating compliance with any legal requirements relating to the construction and operation of the facility;
7. all monthly and annual compliance reports filed by the project owner;
8. all complaints of noncompliance filed with the Energy Commission; and
9. all petitions for project or condition changes and the resulting Staff or Energy Commission action.

## PROJECT OWNER RESPONSIBILITIES

It is the responsibility of the project owner to ensure that the general compliance conditions and the Conditions of Certification are satisfied. The general compliance conditions regarding post-certification changes specify measures that the project owner must take when requesting changes in the project design, compliance conditions, or ownership. Failure to comply with any of the Conditions of Certification or the general compliance conditions may result in reopening of the case and revocation of Energy Commission certification, an administrative fine, or other action as appropriate. A summary of the General Conditions of Certification is included as **Compliance Table 1** at the conclusion of this section. The designation after each of the following summaries of the General Compliance Conditions (**COM-1, COM-2,** etc.) refers to the specific General Compliance Condition contained in **Compliance Table 1.**

## COM-1, Unrestricted Access

The CPM, responsible Energy Commission staff, and delegate agencies or consultants shall be guaranteed and granted unrestricted access to the power plant site, related facilities, project-related staff, and the files and records maintained on-site for the purpose of conducting audits, surveys, inspections, or general site visits. Although the CPM will normally schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time.

## COM-2, Compliance Record

The project owner shall maintain project files on-site, or at an alternative site approved by the CPM, for the life of the project unless a lesser period of time is specified by the Conditions of Certification. The files shall contain copies of all "as-built" drawings, all documents submitted as verification for conditions, and all other project-related documents.

## COM-3, Compliance Verification Submittals

Each Condition of Certification is followed by a means of verification. The verification describes the Energy Commission's procedure(s) to ensure post-certification compliance with adopted conditions.

Verification of compliance with the Conditions of Certification can be accomplished by:

1. reporting on the work done and providing the pertinent documentation in monthly and/or annual compliance reports filed by the project owner or authorized agent as required by the specific Conditions of Certification;
2. providing appropriate letters from delegate agencies verifying compliance;
3. Energy Commission staff audits of project records; and/or
4. Energy Commission staff inspections of mitigation or other evidence of mitigation.

A cover letter from the project owner or authorized agent is required for all compliance submittals and correspondence pertaining to compliance matters. **The cover letter subject line shall identify the involved Condition(s) of Certification by condition number and include a brief description of the subject of the submittal**. The project owner shall also identify those submittals **not** required by a Condition of Certification with a statement such as: "This submittal is for information only and is not required by a specific Condition of Certification." When submitting supplementary or corrected information, the project owner shall reference the date of the previous submittal.

The project owner is responsible for the delivery and content of all verification submittals to the CPM, whether such condition was satisfied by work performed by the project owner or an agent of the project owner.

All submittals shall be addressed as follows:

**Compliance Project Manager**
**Docket Number**
**California Energy Commission**
**1516 Ninth Street (MS-2000)**
**Sacramento, CA 95814**

If the project owner desires Energy Commission staff action by a specific date, it shall so state in its submittal and include a detailed explanation of the effects on the project if this date is not met.

## COM-4, Pre-Construction Matrix and Tasks Prior to Start of Construction

Prior to commencing construction a compliance matrix addressing only those conditions that must be fulfilled before the start of construction shall be submitted by the project owner to the CPM. This matrix will be included with the project owner's **first** compliance submittal , and shall be submitted prior to the first pre-construction meeting, if one is held. It will be in the same format as the compliance matrix referenced below.

Construction shall not commence until the pre-construction matrix is submitted, all pre-construction conditions have been complied with, and the CPM has issued a letter to the project owner authorizing construction. Various lead times (e.g., 30, 60, 90 days) for submittal of compliance verification documents to the CPM for Conditions of Certification are established to allow sufficient Staff time to review and comment and, if necessary, allow the project owner to revise the submittal in a timely manner. This will ensure that project construction may proceed according to schedule.

Failure to submit compliance documents within the specified lead-time may result in delays in authorization to commence various stages of project construction.

Verification lead times (e.g., 90, 60 and 30-days) associated with start of construction may require the project owner to file submittals during the certification process, particularly if construction is planned to commence shortly after certification.

It is important that the project owner understand that the submittal of compliance documents prior to project certification is at the owner's own risk. Any approval by Energy Commission staff is subject to change based upon the Final Decision

## COMPLIANCE REPORTING

There are two different compliance reports that the project owner must submit to assist the CPM in tracking activities and monitoring compliance with the terms and conditions of the Commission Decision. During construction, the project owner or authorized agent will submit Monthly Compliance Reports. During operation, an Annual Compliance Report must be submitted. These reports, and the requirement for an accompanying compliance matrix, are described below. The majority of the Conditions of Certification require that compliance submittals be submitted to the CPM in the monthly or annual compliance reports.

## COM-5, Compliance Matrix

A compliance matrix shall be submitted by the project owner to the CPM along with each monthly and annual compliance report. The compliance matrix is intended to provide the CPM with the current status of all compliance conditions in a spreadsheet format. The compliance matrix must identify:

1. the technical area;
2. the condition number;
3. a brief description of the verification action or submittal required by the condition;
4. the date the submittal is required (e.g., 60 days prior to construction, after final inspection, etc.);
5. the expected or actual submittal date;
6. the date a submittal or action was approved by the Chief Building Official (CBO), CPM, or delegate agency, if applicable;
7. the compliance status of each condition (e.g., "not started," "in progress," or "completed" (include the date); and
8. the project's preconstruction and construction milestones, including dates and status (if milestones are required).

Satisfied conditions do not need to be included in the compliance matrix after they have been identified as satisfied in at least one monthly or annual compliance report.

## COM-6, Monthly Compliance Report

The first Monthly Compliance Report is due one month following the Energy Commission business meeting date on which the project was approved, unless otherwise agreed to by the CPM. The first Monthly Compliance Report shall include an initial list of dates for each of the events identified on the **Key Events List. The Key Events List form is found at the end of this section.**

During pre-construction and construction of the project, the project owner or authorized agent shall submit an original and ten copies (or amount specified by the Compliance Project Manager) of the Monthly Compliance Report within 10 working days after the end of each reporting month. Monthly Compliance Reports shall be clearly identified for the month being reported. The reports shall contain, at a minimum:

1. a summary of the current project construction status, a revised/updated schedule if there are significant delays, and an explanation of any significant changes to the schedule;
2. documents required by specific conditions to be submitted along with the Monthly Compliance Report. Each of these items must be identified in the transmittal letter, and should be submitted as attachments to the Monthly Compliance Report;
3. an initial, and thereafter updated, compliance matrix which shows the status of all Conditions of Certification;

4. a list of conditions that have been satisfied during the reporting period, and a description or reference to the actions which satisfied the condition;
5. a list of any submittal deadlines that were missed, accompanied by an explanation and an estimate of when the information will be provided;
6. a cumulative listing of any approved changes to Conditions of Certification;
7. a listing of any filings with, or permits issued by, other governmental agencies during the month;
8. a projection of project compliance activities scheduled during the next two months. The project owner shall notify the CPM as soon as any changes are made to the project construction schedule that would affect compliance with Conditions of Certification;
9. a listing of the month's additions to the on-site compliance file;
10. any requests, with justification, to dispose of items that are required to be maintained in the project owner's compliance file; and
11. a listing of complaints, notices of violation, official warnings, and citations received during the month, a description of the resolutions of any resolved complaints, and the status of any unresolved complaints.

**COM-7, Annual Compliance Report**

After construction is complete, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports. The reports are for each year of commercial operation and are due to the CPM each year at a date agreed to by the CPM. Annual Compliance Reports shall be submitted over the life of the project unless otherwise specified by the CPM. Each Annual Compliance Report shall identify the reporting period and shall contain the following:

1. an updated compliance matrix which shows the status of all Conditions of Certification (fully satisfied and/or closed conditions do not need to be included in the matrix after they have been reported as closed);
2. a summary of the current project operating status and an explanation of any significant changes to facility operations during the year;
3. documents required by specific conditions to be submitted along with the Annual Compliance Report. Each of these items must be identified in the transmittal letter, and should be submitted as attachments to the Annual Compliance Report;
4. a cumulative listing of all post-certification changes approved by the Energy Commission or cleared by the CPM;
5. an explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided;
6. a listing of filings made to, or permits issued by, other governmental agencies during the year;

7. a projection of project compliance activities scheduled during the next year;
8. a listing of the year's additions to the on-site compliance file;
9. an evaluation of the on-site contingency plan for unplanned facility closure, including any suggestions necessary for bringing the plan up to date [see General Conditions for Facility Closure addressed later in this section]; and
10. a listing of complaints, notices of violation, official warnings, and citations received during the year, a description of the resolution of any resolved complaints, and the status of any unresolved complaints.

## COM-8 – Construction Security Plan, Operations Security Plan, and Vulnerability Assessment

Appropriate Staff shall collaborate with the project owner, from the outset, in developing the Construction and the Operations Security Plans, and the Vulnerability Assessment. Staff shall provide the project owner detailed guidance including, as available, a listing of best management practices and samples of approved Security Plans.

### Construction Security Plan

Thirty days prior to commencing construction, a site-specific Security Plan for the construction phase shall be developed and maintained at the project site.

The project owner shall notify the CPM in writing that the Plan is available for review and approval at the project site. Only Commission personnel who have proper training and proper security clearance, as determined by the Commission after consultation with the project owner, shall review and approve the plan. After approval, the project owner shall implement the Construction Security Plan.

The Construction Security Plan must discuss the following security measures and describe how the project intends to implement them:

1. site fencing enclosing the construction area;
2. use of security guards;
3. check-in procedure or tag system for construction personnel and visitors;
4. protocol for contacting law enforcement and the CPM in the event of emergency or conduct endangering the facility, its employees or contractors, including conduct which is a pre-incident indication thereof; and
5. evacuation procedures.

**Vulnerability Assessment**

The project owner shall prepare a Vulnerability Assessment and submit it to the CPM for review and approval at least 60 days prior to the initial on-site receipt of acutely hazardous materials which will be used in project operations. These materials include hydrogen gas, liquefied petroleum fuels, sulfuric acid in concentrations greater than 90 percent, and any material poisonous by inhalation as defined in 49 CFR section 171.8 The Vulnerability Assessment shall use approaches derived from, or based upon, USEPA, US Department of Justice, Energy Commission, or other relevant guidelines.

The project owner shall develop a site-specific Operations Security Plan, based upon the Vulnerability Assessment, that provides the level of security appropriate for the facility.

**Operations Security Plan**

The project owner shall submit the Operations Security Plan to the CPM for review and approval in conjunction with the Vulnerability Assessment.

The Operations Security Plan must discuss the following measures, indicate which ones the project owner plans to implement, and describe how these measures will be implemented:

1. permanent site fencing and security gate(s);
2. security guards;
3. security alarm for critical structures;
4. protocol for contacting law enforcement and the CPM in the event of emergency or conduct endangering the facility, its employees, or contractors, including conduct which is a pre-incident indication thereof;
5. evacuation procedures;
6. perimeter breach detectors and on-site motion detectors;
7. video or still camera monitoring system;
8. fire alarm monitoring system;
9. management and employee security responsibility and training;
10. a description of the site personnel background checks the project owner will use to ascertain the employees' and routine on-site contractors' claims of identify and employment history, consistent with state and federal law regarding security and privacy;
11. site access for vendors; and
12. for vendors delivering acutely hazardous materials as specified in the Vulnerability Assessment, a description of the project owner's procedures for ensuring that

contracts with such vendors include a requirement for the vendors to confirm that the vendors have conducted personnel background checks on any employee involved in the transportation and delivery of these materials to the project site, consistent with the vendor's obligations under applicable state and federal law.

The Operations Security Plan shall be implemented following approval by the CPM. The CPM may authorize modifications to the measures proposed by the project owner, or may require measures additional to those listed above depending on circumstances unique to the facility, or in response to industry-related security concerns.

The project owner shall implement the Operations Security Plan following its approval by the CPM. It is not intended that project construction halt while approval by the CPM of the Operations Security Plan is pending.

Condition **COM-8** may be subject to replacement or termination if the Commission undertakes future rulemaking or other action on security, where power plant owners have the opportunity to review and comment, that results in promulgating guidelines applicable to projects under the jurisdiction of the Commission.

**COM-9, Confidential Information**

Any information that the project owner deems confidential shall be submitted to the Energy Commission's Docket with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505(a). Any information that is determined to be confidential shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

**COM-10, Department of Fish and Game Filing Fee**

Pursuant to the provisions of Fish and Game Code Section 711.4, the project owner shall pay a filing fee in the amount of $850. The payment instrument shall be provided to the Energy Commission's Project Manager (PM), not the CPM, at the time of project certification and shall be made payable to the California Department of Fish and Game. The PM will submit the payment to the Office of Planning and Research at the time of filing of the notice of decision pursuant to Public Resources Code Section 21080.5.

**COM-11, Reporting of Complaints, Notices, and Citations**

Prior to the start of construction, the project owner must send a letter to property owners living within one mile of the project providing them a telephone number to contact project representatives with questions, complaints, or concerns. If the telephone is not staffed 24 hours per day, it shall include automatic answering with date and time stamp recording. All recorded inquiries shall be responded to within 24 hours. The telephone

number shall be posted at the project site and made easily visible to passersby during construction and operation. The telephone number shall be provided to the CPM who will post it on the Energy Commission's web page at:

http://www.energy.ca.gov/sitingcases/power_plants_contacts.html

Any changes to the telephone number shall be submitted immediately to the CPM who will update the web page.

In addition to the monthly and annual compliance reporting requirements described above, the project owner shall report and provide copies of all complaint forms, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt, to the CPM. Complaints shall be logged and numbered. Noise complaints shall be recorded on the form provided in the **NOISE** Conditions of Certification. All other complaints shall be recorded on the complaint form (Attachment A).

## Facility Closure

At some point in the future, the project will cease operation and close down. At that time, it will be necessary to ensure that the closure occurs in such a way that public health, safety, and the environment are protected from adverse impacts. Although the setting for this project does not appear, at this time, to present any special or unusual closure problems, it is impossible to foresee what the situation will be in 30 years or more when the project ceases operation. Therefore, provisions must be made that provide the flexibility to deal with the specific situation and project setting that exist at the time of closure. Laws, ordinances, regulations, and standards (LORS) pertaining to facility closure are identified in the sections dealing with each technical area. Facility closure must be consistent with LORS in effect at the time of closure.

There are at least three circumstances in which a facility closure can take place: planned closure, unplanned temporary closure, and unplanned permanent closure**.**

## CLOSURE DEFINITIONS

### Planned Closure

A planned closure occurs when the facility is closed in an anticipated, orderly manner, at the end of its useful economic or mechanical life, or due to gradual obsolescence.

### Unplanned Temporary Closure

An unplanned temporary closure occurs when the facility is closed suddenly and/or unexpectedly, on a short-term basis, due to unforeseen circumstances such as a natural disaster or an emergency.

## Unplanned Permanent Closure

An unplanned permanent closure occurs if the project owner closes the facility suddenly and/or unexpectedly, on a permanent basis. This includes unplanned closure where the owner remains accountable for implementing the on-site contingency plan. It can also include unplanned closure where the project owner is unable to implement the contingency plan, and the project is essentially abandoned.

## GENERAL CONDITIONS FOR FACILITY CLOSURE

## COM-12, Planned Closure

In order to ensure that a planned facility closure does not create adverse impacts, a closure process that provides for careful consideration of available options and applicable LORS and local/regional plans in existence at the time of closure will be undertaken. To ensure adequate review of a planned project closure, the project owner shall submit a proposed facility closure plan to the Energy Commission for review and approval at least 12 months prior to commencement of closure activities (or other period of time agreed to by the CPM). The project owner shall file 120 copies (or other number of copies agreed upon by the CPM) of a proposed facility closure plan with the Energy Commission.

The plan shall:

1. identify and discuss any impacts and mitigation to address significant adverse impacts associated with proposed closure activities and to address facilities, equipment, or other project related remnants that will remain at the site;
2. identify a schedule of activities for closure of the power plant site, transmission line corridor, and all other appurtenant facilities constructed as part of the project;
3. identify any facilities or equipment intended to remain on-site after closure, the reason, and any future use therefor; and
4. address conformance of the plan with all applicable LORS and local/regional plans in existence at the time of facility closure, and applicable Conditions of Certification.

In the event that there are significant issues associated with the proposed facility closure plan's approval, or the desires of local officials or interested parties are inconsistent with the plan, the CPM shall hold one or more workshops and/or the Energy Commission may hold public hearings as part of its approval procedure.

In addition, prior to submittal of the proposed facility closure plan, a meeting shall be held between the project owner and the Energy Commission CPM for the purpose of discussing the specific contents of the plan.

As necessary, prior to or during the closure plan process, the project owner shall take appropriate steps to eliminate any immediate threats to public health and safety and the environment, but shall not commence any other closure activities until Energy Commission approval of the facility closure plan is obtained.

## COM-13, Unplanned Temporary Closure/On-Site Contingency Plan

In order to ensure that public health, safety, and the environment are protected in the event of an unplanned temporary facility closure, it is essential to have an on-site contingency plan in place. The on-site contingency plan will help to ensure that all necessary steps to mitigate public health, safety, and environmental impacts are taken in a timely manner.

The project owner shall submit an on-site contingency plan for CPM review and approval. The plan shall be submitted no less that 60 days (or other time agreed to by the CPM) prior to commencement of commercial operation. The approved plan must be in place prior to commercial operation of the facility and shall be kept at the site at all times.

The project owner, in consultation with the CPM, shall update the on-site contingency plan as necessary. The CPM may require revisions to the on-site contingency plan over the life of the project. In the annual compliance reports submitted to the Energy Commission, the project owner shall review the on-site contingency plan and recommend changes to bring the plan up to date. Any changes to the plan must be approved by the CPM.

The on-site contingency plan shall provide for taking immediate steps to secure the facility from trespassing or encroachment. In addition, for closures of more than 90 days and unless other arrangements are agreed to by the CPM, the plan shall provide for removal of hazardous materials and hazardous wastes, draining of all chemicals from storage tanks and other equipment, and the safe shutdown of all equipment. (Also see specific Conditions of Certification for the technical areas of **Hazardous Materials Management** and **Waste Management**.)

In the event of an unplanned temporary closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, or e-mail within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the circumstances and expected duration of the closure.

If the CPM determines that an unplanned temporary closure is likely to be permanent, or for a duration of more than 12 months, a closure plan consistent with the requirements for a planned closure shall be developed and submitted to the CPM within 90 days of the CPM's determination (or other period of time agreed to by the CPM).

## COM-14, Unplanned Permanent Closure/On-Site Contingency Plan

The on-site contingency plan required for unplanned temporary closure shall also cover unplanned permanent facility closure. All of the requirements specified for unplanned temporary closure shall also apply to unplanned permanent closure.

In addition, the on-site contingency plan shall address how the project owner will ensure that all required closure steps will be successfully undertaken in the unlikely event of abandonment.

In the event of an unplanned permanent closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, or e-mail within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the status of all closure activities.

A closure plan, consistent with the requirements for a planned closure, shall be developed and submitted to the CPM within 90 days of the permanent closure or another period of time agreed to by the CPM.

## CBO Delegation and Agency Cooperation

In performing construction monitoring of the project Commission staff acts as, and has the authority of, the Chief Building Official (CBO). Commission staff may delegate CBO responsibility to either an independent third party contractor or the local building official. Commission staff retains CBO authority when selecting a delegate CBO including enforcing and interpreting state and local codes, and use of discretion, as necessary, in implementing the various codes and standards.

Commission staff may also seek the cooperation of state, regional, and local agencies that have an interest in environmental control when conducting project monitoring.

## Enforcement

The Energy Commission's legal authority to enforce the terms and conditions of its Decision is specified in Public Resources Code sections 25534 and 25900. The Energy Commission may amend or revoke the certification for any facility, and may impose a civil penalty for any significant failure to comply with the terms or conditions of the Energy Commission Decision. The specific action and amount of any fines the Energy Commission may impose take into account the specific circumstances of the incident(s). This includes such factors as the previous compliance history, whether the cause of the incident involves willful disregard of LORS, oversight, unforeseeable events, and other factors. Moreover, to ensure compliance with the terms and Conditions of Certification and applicable LORS, delegate agencies are authorized to take any action allowed by law in accordance with their statutory authority, regulations, and administrative procedures.

## Noncompliance Complaint Procedures

Any person or agency may file a complaint alleging noncompliance with the Conditions of Certification. Such a complaint will be subject to review by the Energy Commission pursuant to Title 20, California Code of Regulations, section 1230 et seq., but in many instances the noncompliance can be resolved by using the informal dispute resolution process. Both the informal and formal complaint procedure, as described in current State law and regulations, are described below. They shall be followed unless superseded by law or regulations.

## Informal Dispute Resolution Procedure

The following procedure is designed to informally resolve disputes concerning the interpretation of compliance with the requirements of this Compliance Plan. The project owner, the Energy Commission, or any other party, including members of the public, may initiate this procedure for resolving a dispute. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents.

This procedure may precede the more formal complaint and investigation procedure specified in Title 20, California Code of Regulations, section 1230 et seq., but is not intended to be a substitute for or prerequisite to it. This informal procedure may not be used to change the terms and Conditions of Certification as approved by the Energy Commission, although the agreed upon resolution may result in a project owner, or in some cases the Energy Commission staff, proposing an amendment.

The procedure encourages all parties involved in a dispute to discuss the matter and to reach an agreement resolving the dispute. If a dispute cannot be resolved, then the matter must be referred to the full Energy Commission for consideration via the complaint and investigation process. The procedure for informal dispute resolution is as follows:

### Request for Informal Investigation

Any individual, group, or agency may request that the Energy Commission conduct an informal investigation of alleged noncompliance with the Energy Commission's terms and Conditions of Certification. All requests for informal investigations shall be made to the designated CPM.

Upon receipt of a request for informal investigation, the CPM shall promptly notify the project owner of the allegation by telephone and letter. All known and relevant information of the alleged noncompliance shall be provided to the project owner and to the Energy Commission staff. The CPM will evaluate the request and the information to determine if further investigation is necessary. If the CPM finds that further investigation is necessary, the project owner will be asked to promptly investigate the matter and, within 7 working days of the CPM's request, provide a written report of the results of the investigation, including corrective measures proposed or undertaken, to the CPM. Depending on the urgency of the noncompliance matter, the CPM may conduct a site visit and/or request the project owner to provide an initial report within 48 hours, followed by a written report filed within 7 days.

### Request for Informal Meeting

In the event that either the party requesting an investigation or the Energy Commission staff is not satisfied with the project owner's report, investigation of the event, or corrective measures undertaken, either party may submit a written request to the CPM for a meeting with the project owner. Such request shall be made within 14 days of the

project owner's filing of its written report. Upon receipt of such a request, the CPM shall:

1. immediately schedule a meeting with the requesting party and the project owner, to be held at a mutually convenient time and place;
2. secure the attendance of appropriate Energy Commission staff and staff of any other agencies with expertise in the subject area of concern, as necessary;
3. conduct such meeting in an informal and objective manner so as to encourage the voluntary settlement of the dispute in a fair and equitable manner; and
4. after the conclusion of such a meeting, promptly prepare and distribute copies to all in attendance and to the project file a summary memorandum which fairly and accurately identifies the positions of all parties and any conclusions reached. If an agreement has not been reached, the CPM shall inform the complainant of the formal complaint process and requirements provided under Title 20, California Code of Regulations, section 1230 et seq.

**Formal Dispute Resolution Procedure-Complaints and Investigations**

If either the project owner, Energy Commission staff, or the party requesting an investigation is not satisfied with the results of the informal dispute resolution process, such party may file a complaint or a request for an investigation with the Energy Commission's Chief Counsel. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1230 et seq.

The Chairman, upon receipt of a written request stating the basis of the dispute, may grant a hearing on the matter, consistent with the requirements of noticing provisions. The Energy Commission shall have the authority to consider all relevant facts involved and make any appropriate orders consistent with its jurisdiction (Cal. Code Regs., tit. 20, §§ 1232-1236).

## POST CERTIFICATION CHANGES TO THE ENERGY COMMISSION DECISION: AMENDMENTS, INSIGNIFICANT PROJECT CHANGES AND VERIFICATION CHANGES

The project owner must petition the Energy Commission, pursuant to Title 20, California Code of Regulations, section 1769, to: 1) delete or change a Condition of Certification; 2) modify the project design or operational requirements; and 3) transfer ownership or operational control of the facility.

A petition is required for **amendments** and for **insignificant project changes**. For verification changes, a letter from the project owner is sufficient. In all cases, the petition or letter requesting a change should be submitted to the Energy Commission's Docket in accordance with Title 20, California Code of Regulations, section 1209.

The criteria that determine which type of change process applies are explained below.

## AMENDMENT

A proposed change will be processed as an amendment if it involves a change to the requirement or protocol, or in some cases the verification portion of a Condition of Certification, an ownership or operator change, or a potential significant environmental impact.

## INSIGNIFICANT PROJECT CHANGE

The proposed change will be processed as an insignificant project change if it does not require changing the language in a Condition of Certification, have a potential for significant environmental impact, or cause the project to violate laws, ordinances, regulations or standards.

## VERIFICATION CHANGE

As provided in Title 20, Section 1770 (d), California Code of Regulations, a verification may be modified by Staff without requesting an amendment to the decision if the change does not conflict with the Conditions of Certification.

# COM-6, KEY EVENTS LIST

PROJECT: Walnut Energy Center Power Project

DOCKET #: (02-AFC-4)

COMPLIANCE PROJECT MANAGER: Lance Shaw

| EVENT DESCRIPTION | DATE |
|---|---|
| Certification Date/Obtain Site Control | |
| Online Date | |
| **POWER PLANT SITE ACTIVITIES** | |
| Start Site Mobilization | |
| Start Ground Disturbance | |
| Start Grading | |
| Start Construction | |
| Begin Pouring Major Foundation Concrete | |
| Begin Installation of Major Equipment | |
| Completion of Installation of Major Equipment | |
| First Combustion of Gas Turbine | |
| Start Commercial Operation | |
| Complete All Construction | |
| **TRANSMISSION LINE ACTIVITIES** | |
| Start T/L Construction | |
| SYNCHRONIZATION WITH GRID AND INTERCONNECTION | |
| COMPLETE T/L CONSTRUCTION | |
| **FUEL SUPPLY LINE ACTIVITIES** | |
| Start Gas Pipeline Construction and Interconnection | |
| COMPLETE GAS PIPELINE CONSTRUCTION | |
| **WATER SUPPLY LINE ACTIVITIES** | |
| START WATER SUPPLY LINE CONSTRUCTION | |
| COMPLETE WATER SUPPLY LINE CONSTRUCTION | |

**TABLE 1**
**COMPLIANCE SECTION**
**SUMMARY of GENERAL CONDITIONS OF CERTIFICATION**

| CONDITION NUMBER | PAGE # | SUBJECT | DESCRIPTION |
|---|---|---|---|
| COM-1 | 4 | Unrestricted Access | The project owner shall grant Energy Commission staff and delegate agencies or consultants unrestricted access to the power plant site. |
| COM-2 | 4 | Compliance Record | The project owner shall maintain project files on-site. Energy Commission staff and delegate agencies shall be given unrestricted access to the files. |
| COM-3 | 4 | Compliance Verification Submittals | The project owner is responsible for the delivery and content of all verification submittals to the CPM, whether the condition was satisfied by work performed by the project owner or his agent. |
| COM-4 | 5 | Pre-construction Matrix and Tasks Prior to Start of Construction | Construction shall not commence until all of the following activities/submittals have been completed:<br>▪ property owners living within one mile of the project have been provided a telephone number to contact for questions, complaints or concerns;<br>▪ a pre-construction matrix has been submitted identifying only those conditions that must be fulfilled before the start of construction;<br>▪ all pre-construction conditions have been complied with; and<br>▪ the CPM has issued a letter to the project owner |

| CONDITION NUMBER | PAGE # | SUBJECT | DESCRIPTION |
|---|---|---|---|
| | | | authorizing construction. |
| COM-5 | 6 | Compliance Matrix | The project owner shall submit a compliance matrix (in a spreadsheet format) with each monthly and annual compliance report which includes the status of all compliance Conditions of Certification. |
| COM-6 | 6 | Monthly Compliance Report (including a Key Events List) | During construction, the project owner shall submit Monthly Compliance Reports (MCRs) which include specific information. The first MCR is due the month following the Commission business meeting date on which the project was approved and shall include an initial list of dates for each of the events identified on the Key Events List. |
| COM-7 | 7 | Annual Compliance Reports | After construction ends and throughout the life of the project, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports. |
| COM-8 | 8 | Security Plans | Thirty days prior to commencing construction, the project owner shall submit a Security Plan for the construction phase. Sixty days prior to initial receipt of hazardous material on-site, the project owner shall submit an Security Plan & Vulnerability Assessment for the operational phase. |
| COM-9 | 9 | Confidential Information | Any information the project owner deems confidential shall be submitted to the Dockets Unit with an |

| CONDITION NUMBER | PAGE # | SUBJECT | DESCRIPTION |
|---|---|---|---|
| | | | application for confidentiality. |
| COM-10 | 9 | Dept of Fish and Game Filing Fee | The project owner shall pay a filing fee of $850 at the time of project certification. |
| COM-11 | 9 | Reporting of Complaints, Notices and Citations | Within 10 days of receipt, the project owner shall report to the CPM all notices, complaints, and citations. |
| COM-12 | 10 | Planned Facility Closure | The project owner shall submit a closure plan to the CPM at least 12 months prior to commencement of a planned closure. |
| COM-13 | 11 | Unplanned Temporary Facility Closure | To ensure that public health, safety, and the environment are protected in the event of an unplanned temporary closure, the project owner shall submit an on-site contingency plan no less than 60 days prior to commencement of commercial operation. |
| COM-14 | 12 | Unplanned Permanent Facility Closure | To ensure that public health, safety, and the environment are protected in the event of an unplanned permanent closure, the project owner shall submit an on-site contingency plan no less than 60 days prior to commencement of commercial operation. |

**ATTACHMENT A**

COMPLAINT REPORT/RESOLUTION FORM

| |
|---|
| PROJECT NAME: Walnut Energy Center **POWER Project**<br>AFC Number: (02-AFC-4) |
| **COMPLAINT LOG NUMBER _____**<br>Complainant's name and address:<br><br>Phone number: |
| Date and time complaint received:<br>Indicate if by telephone or in writing (attach copy if written):<br>Date of first occurrence: |
| Description of complaint (including dates, frequency, and duration): |
| Findings of investigation by plant personnel:<br><br>Indicate if complaint relates to violation of Energy Commission requirement:<br>Date complainant contacted to discuss findings: |
| Description of corrective measures taken or other complaint resolution:<br><br>Indicate if complainant agrees with proposed resolution:<br>If not, explain:<br><br>Other relevant information: |
| If corrective action necessary, date completed:<br>Date first letter sent to complainant: _____(copy attached)<br>Date final letter sent to complainant: _____(copy attached) |
| This information is certified to be correct.<br>Plant Manager's Signature: _____ Date: |

# IV. ENGINEERING ASSESSMENT

The broad engineering assessment conducted for the Walnut Energy Center consisted of separate analyses that examined the design, engineering, efficiency, and reliability of the project. These analyses included the on-site power generating equipment and project-related facilities (natural gas supply pipeline, water supply pipelines, and transmission interconnection).

## A. FACILITY DESIGN

The review of facility design covers several technical disciplines, including the civil, electrical, mechanical, and structural engineering elements related to project design, construction, and operation. Although it initially appeared the parties were in disagreement, they reached accord by the time of the evidentiary hearing. (9/29/03 RT 26-27; Exs. 45, 47.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The AFC describes the preliminary facility design for the project. (Ex. 1.) In considering the adequacy of the design plans, the Staff reviews whether the power plant and linear facilities are described with sufficient detail to assure the project can be designed and constructed in accordance with applicable engineering laws, ordinances, regulations, and standards (LORS). The review also includes the identification of special design features that are necessary to deal with unique site conditions which could impact public health and safety, the environment, or the operational reliability of the project.

We have adopted Conditions of Certification that establish a design review and construction inspection process to verify compliance with applicable standards

and requirements.[5] In addition, the Conditions of Certification specify the roles, qualifications, and responsibilities of engineering personnel who will oversee project design and construction. They require approval by the Chief Building Official (CBO) after appropriate inspections by qualified engineers, and no element of construction may proceed without the CBO's approval. (Ex. 47, p. 4.)

The project will be designed and constructed in conformance with the latest edition of the California Building Code (currently the 2001 CBC) and other applicable codes and standards in effect at the time design approval and construction actually begin. Condition of Certification **GEN-1** incorporates this requirement.

Potential geological hazards were also considered, and the evidence contains a review of preliminary project design, site preparation and development, major project structures, systems and equipment, mechanical systems, electrical systems, and related facilities. (Exs. 1, 11.)

The project will implement site preparation and development criteria consistent with accepted industry standards. This includes design practices and construction methods for grading, flood protection, erosion control, site drainage, and site access. (Ex. 47, p. 2.) Condition **CIVIL-1** ensures that these activities will be conducted in compliance with applicable LORS.

Major structures, systems, and equipment include those structures and associated components necessary for power production and facilities used for storage of hazardous or toxic materials. (Ex. 47, p. 2.) Condition **GEN-2** includes a list of the major structures and equipment included in the initial engineering design for the project.

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[5] Conditions of Certification **GEN-1** through **GEN-8, CIVIL-1** through **CIVIL-4, STRUC-1** through **STRUC-4, MECH-1** through **MECH-3,** and **ELEC-1.**.

The power plant site is located in Seismic Zone 3. The 2001 CBC requires specific "lateral force" procedures for different types of structures to determine their seismic design. To ensure that project structures are analyzed using the appropriate lateral force procedure, Condition **STRUC-1** requires the project owner to submit its proposed procedures to the CBO for review and approval prior to the start of construction. (Ex. 47, p. 3.)

Conditions **MECH**-1 through **MECH**-3 ensure the project's mechanical systems will comply with appropriate standards. Condition **ELEC-1** ensures that design and construction of major electrical features will comply with applicable LORS.

Finally, the evidence also addresses project closure. (Ex. 47, p. 3-4.) To ensure that decommissioning of the facility will conform with applicable LORS to protect the environment and public health and safety, the project owner shall submit a decommissioning plan. This plan is described in the general closure provisions of the Compliance Monitoring and Closure Plan contained in Part III of this Decision.

**FINDINGS AND CONCLUSIONS**

Based on the uncontroverted evidence of record, the Commission makes the following findings and reaches the following conclusions:

1. The Walnut Energy Center is currently in the preliminary design stage.

2. The evidence of record contains sufficient information to establish that the proposed facility can be designed and constructed in conformity with the applicable laws, ordinances, regulations, and standards (LORS) set forth in the appropriate portion of **Appendix A** of this Decision. This will occur through the use of design review, plan checking, and field inspections.

3. The Conditions of Certification below and the provisions of the Compliance Plan contained in this Decision set forth requirements to be

followed in the event of the planned, the unexpected temporary, or the unexpected permanent closure of the facility.

4. The Conditions of Certification set forth herein ensure that the project will be designed, constructed, and ultimately closed in a manner that protects environmental quality and public health and safety.

We therefore conclude that with the implementation of the Conditions of Certification listed below, the Walnut Energy Center project will be designed and constructed in conformity with applicable laws pertinent to its geologic, as well as to its civil, structural, mechanical, and electrical engineering aspects.

## CONDITIONS OF CERTIFICATION

**GEN-1** The project owner shall design, construct, and inspect the project in accordance with the 2001 California Building Standards Code (CBSC) (also known as Title 24, California Code of Regulations), which encompasses the California Building Code (CBC), California Building Standards Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and all other applicable engineering LORS in effect at the time initial design plans are submitted to the CBO for review and approval. (The CBSC in effect is that edition that has been adopted by the California Building Standards Commission and published at least 180 days previously.) All transmission facilities (lines, switchyards, switching stations, and substations) are addressed in Conditions of Certification in the **Transmission System Engineering** section of this Decision.

In the event that the initial engineering designs are submitted to the CBO when a successor to the 2001 CBSC is in effect, the 2001 CBSC provisions identified herein shall be replaced with the applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction, or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern.

**Verification:** Within 30 days after receipt of the Certificate of Occupancy, the project owner shall submit to the Compliance Project Manager (CPM) a statement of verification, signed by the responsible design engineer, attesting

that all designs, construction, installation, and inspection requirements of the applicable LORS and the Energy Commission's Decision have been met in the area of facility design. The project owner shall provide the CPM a copy of the Certificate of Occupancy within 30 days of receipt from the CBO [2001 CBC, Section 109 – Certificate of Occupancy].

**GEN-2** Prior to submittal of the initial engineering designs for CBO review, the project owner shall furnish to the CPM and to the CBO a schedule of facility design submittals, a Master Drawing List, and a Master Specifications List. The schedule shall contain a list of proposed submittal packages of designs, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide specific packages to the CPM when requested.

**Verification:** At least 30 days (or project owner and CBO approved alternate timeframe) prior to the start of rough grading, the project owner shall submit to the CBO and to the CPM the schedule, the Master Drawing List, and the Master Specifications List of documents to be submitted to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures and equipment listed in **Facility Design Table 1** below. Major structures and equipment shall be added to or deleted from the table only with CPM approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

**Table 1:**
**Major Structures and Equipment List**

| Equipment/System | Quantity (Plant) |
|---|---|
| Combustion Turbine (CT) Foundation and Connections | 2 |
| Combustion Turbine Generator Foundation and Connections | 2 |
| Steam Turbine (ST) Foundation and Connections | 1 |
| Steam Turbine Generator Foundation and Connections | 1 |
| Heat Recovery Steam Generator (HRSG) Structure, Foundation and Connections | 2 |
| HRSG Stack Structure, Foundation and Connections | 2 |
| CT Air Inlet System Structure, Foundation and Connections | 2 |
| CT Main Transformer Foundation and Connections | 2 |
| ST Main Transformer Foundation and Connections | 1 |
| Unit Auxiliary Transformer Foundation and Connections | 3 |
| Generator Breakers Foundation and Connections | 3 |
| Water Treatment Building Structure, Foundation and Connections | 1 |
| Warehouse/Maintenance Building Structure, Foundation and Connections | 1 |
| Administration/Control Room Building Structure, Foundation and Connections | 1 |
| Power Distribution Center Structure, Foundation and Connections | 1 |
| Auxiliary Cooling Water Pumps Foundation and Connections | 2 |
| Circulating Water Pumps Foundation and Connections | 2 |
| Boiler Feed Pumps Foundation and Connections | 2 |
| Cooling Tower Structure, Foundation and Connections | 1 |
| Cooling Tower Electrical Building Structure, Foundation and Connections | 1 |
| Cooling Tower Chemical Feed Foundation and Connections | 1 |
| Service/Fire Water Storage Tank Structure, Foundation and Connections | 1 |
| Demineralized Water Storage Tank Structure, Foundation and Connections | 1 |
| Ammonia Storage Tank Foundation and Connections | 1 |
| Switchyard Control Building Structure, Foundation and Connections | 1 |
| HRSG Blowdown Tank Structure, Foundation and Connections | 2 |
| Fuel Gas Compressor Foundation and Connections | 1 |
| Ammonia Injection Skid Foundation and Connections | 2 |
| Oil/Water Separator Foundation and Connections | 1 |
| Zero Liquid Discharge System Structure, Foundation and Connections | 1 |
| Condenser and Auxiliaries Foundation and Connections | 1 |
| Air Compressor Foundation and Connections | 1 |
| Auxiliary Transformer Foundation and Connections | 2 |
| Fire Pump Skid Foundation and Connections | 1 |
| Recycled Water Storage Tank Structure, Foundation and Connections | 1 |

| Equipment/System | Quantity (Plant) |
|---|---|
| Condensate Pumps Foundation and Connections | 3 |
| Blowdown Storage Tank Structure, Foundation and Connections | 1 |
| Fire Protection System | 1 |
| Continuous Emissions Monitoring Systems, Foundation and Connections | 1 |
| Drainage Systems (including sanitary drain and waste) | 1 Lot |
| High Pressure and Large Diameter Piping | 1 Lot |
| HVAC and Refrigeration Systems | 1 Lot |
| Temperature Control and Ventilation Systems (including water and sewer connections) | 1 Lot |
| Substation/Switchyard, Buses and Towers | 1 Lot |
| Electrical Duct Banks | 1 Lot |

**GEN-3** The project owner shall make payments to the CBO for design review, plan check, and construction inspection based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. These fees may be consistent with the fees listed in the 2001 CBC [Chapter 1, Section 107 and Table 1-A, Building Permit Fees; Appendix Chapter 33, Section 3310 and Table A-33-A, Grading Plan Review Fees; and Table A-33-B, Grading Permit Fees], adjusted for inflation and other appropriate adjustments; may be based on the value of the facilities reviewed; may be based on hourly rates; or may be as otherwise agreed by the project owner and the CBO.

**Verification:** The project owner shall make the required payments to the CBO in accordance with the agreement between the project owner and the CBO. The project owner shall send a copy of the CBO's receipt of payment indicating that the applicable fees have been paid to the CPM in the next Monthly Compliance Report.

**GEN-4** Prior to the start of rough grading, the project owner shall assign a California registered architect, structural engineer, or civil engineer as a resident engineer (RE) to be in general responsible charge of the project [Building Standards Administrative Code (Cal. Code Regs., tit. 24, § 4-209, Designation of Responsibilities)]. All transmission facilities (lines, switchyards, switching stations, and substations) are addressed in Conditions of Certification in the **Transmission System Engineering** section of this Decision.

The RE may delegate responsibility for portions of the project to other registered engineers. Registered mechanical and electrical engineers may be delegated responsibility for mechanical and electrical portions of the project, respectively. A project may be divided into parts, provided each part is clearly defined as a distinct unit. Separate assignment of general responsible charge may be made for each designated part.

The RE shall:

1. Monitor construction progress of work requiring CBO design review and inspection to ensure compliance with LORS;
2. Ensure that construction of all the facilities subject to CBO design review and inspection conforms in every material respect to the applicable LORS, these Conditions of Certification, and approved plans and specifications;
3. Prepare documents to initiate changes in the approved drawings and specifications when directed by the project owner or as required by conditions on the project;
4. Be responsible for providing the project inspectors and testing agency(ies) with complete and up-to-date set(s) of stamped drawings, plans, specifications, and any other required documents;
5. Be responsible for the timely submittal of construction progress reports to the CBO from the project inspectors, the contractor, and other engineers who have been delegated responsibility for portions of the project; and
6. Be responsible for notifying the CBO of corrective action or the disposition of items noted on laboratory reports or other tests as not conforming to the approved plans and specifications.

The RE shall have the authority to halt construction and to require changes or remedial work if the work does not conform to applicable requirements.

If the RE or the delegated engineers are reassigned or replaced, the project owner shall submit the name, qualifications, and registration number of the newly assigned engineer(s) to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer(s).

**Verification:** At least 30 days (or project owner and CBO approved alternate timeframe) prior to the start of rough grading, the project owner shall submit to the CBO, for review and approval, the resume and registration number of the RE and any other delegated engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the RE and other delegated engineer(s) within 5 days of the approval.

If the RE or the delegated engineer(s) are subsequently reassigned or replaced, the project owner has 5 days in which to submit the resume and registration number of the newly assigned engineer to the CBO for review and approval. The

project owner shall notify the CPM of the CBO's approval of the new engineer within 5 days of the approval.

**GEN-5** Prior to the start of rough grading, the project owner shall assign at least one of each of the following California registered engineers to the project: a civil engineer; and a soils engineer, or a geotechnical engineer, or a civil engineer experienced and knowledgeable in the practice of soils engineering. Prior to the start of construction, the project owner shall assign at least one of each of the following California registered engineers to the project: a design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; a mechanical engineer; and an electrical engineer. [California Business and Professions Code section 6704 et seq., and sections 6730, 6731 and 6736 requires state registration to practice as a civil engineer or structural engineer in California.] All transmission facilities (lines, switchyards, switching stations, and substations) are addressed in Conditions of Certification in the **Transmission System Engineering** section of this Decision.

The tasks performed by the civil, mechanical, electrical, or design engineers may be divided between two or more engineers as long as each engineer is responsible for a particular segment of the project (e.g., proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer.

The project owner shall submit to the CBO, for review and approval, the names, qualifications, and registration numbers of all responsible engineers assigned to the project [2001 CBC, Section 104.2, Powers and Duties of Building Official].

If any one of the designated responsible engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications, and registration number of the newly assigned responsible engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.

A. The civil engineer shall:

1. Review the Foundation Investigations Report, Geotechnical Report, or Soils Report;
2. Design (or be responsible for design), stamp, and sign all plans, calculations, and specifications for proposed site work, civil works, and related facilities requiring design review and inspection by the CBO. At a minimum, these include grading, site preparation, excavation, compaction, construction of

secondary containment, foundations, erosion and sedimentation control structures, drainage facilities, underground utilities, culverts, site access roads, and sanitary sewer systems; and

3. Provide consultation to the RE during the construction phase of the project and recommend changes in the design of the civil works facilities and changes in the construction procedures.

B. The soils engineer, geotechnical engineer, or civil engineer experienced and knowledgeable in the practice of soils engineering, shall:

1. Review all the engineering geology reports;
2. Prepare or provide the Foundation Investigations Report, Geotechnical Report, or Soils Report containing field exploration reports, laboratory tests, and engineering analysis detailing the nature and extent of the soils that may be susceptible to liquefaction, rapid settlement or collapse when saturated under load [2001 CBC, Appendix Chapter 33, Section 3309.5, Soils Engineering Report; Section 3309.6, Engineering Geology Report; and Chapter 18, Section 1804, Foundation Investigations];
3. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in the 2001 CBC, Appendix Chapter 33; Section 3317, Grading Inspections;
4. Recommend field changes to the civil engineer and RE; and
5. Prepare final soils grading report.

This engineer shall be authorized to halt earthwork and to require changes if site conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations [2001 CBC, section 104.2.4, Stop orders].

C. The design engineer shall:

1. Be directly responsible for the design of the proposed structures and equipment supports;
2. Provide consultation to the RE during design and construction of the project;
3. Monitor construction progress to ensure compliance with engineering LORS;
4. Evaluate and recommend necessary changes in design; and

5. Prepare and sign all major building plans, specifications, and calculations.

D. The mechanical engineer shall be responsible for, and sign and stamp a statement with, each mechanical submittal to the CBO stating that the proposed final design plans, specifications, and calculations conform with all of the mechanical engineering design requirements set forth in the Energy Commission's Decision.

E. The electrical engineer shall:

1. Be responsible for the electrical design of the project; and
2. Sign and stamp electrical design drawings, plans, specifications, and calculations.

**Verification:** At least 30 days (or project owner and CBO approved alternate timeframe) prior to the start of rough grading, the project owner shall submit to the CBO, for review and approval, resumes and registration numbers of the responsible civil engineer and the soils (geotechnical) engineer assigned to the project.

At least 30 days (or project owner and CBO approved alternate timeframe) prior to the start of construction, the project owner shall submit to the CBO for review and approval resumes and registration numbers of the responsible design engineer, mechanical engineer, and electrical engineer assigned to the project.

The project owner shall notify the CPM of the CBO's approvals of the responsible engineers within 5 days of the approval.

If the designated responsible engineer is subsequently reassigned or replaced, the project owner has 5 days in which to submit the resume and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within 5 days of the approval.

**GEN-6** Prior to the start of an activity requiring special inspection, the project owner shall assign to the project qualified and certified special inspector(s) who shall be responsible for the special inspections required by the 2001 CBC, Chapter 17 [Section 1701, Special Inspections; Section 1701.5, Type of Work (requiring special inspection)]; and Section 106.3.5, Inspection and observation program. All transmission facilities (lines, switchyards, switching stations, and substations) are addressed in Conditions of Certification in the **Transmission System Engineering** section of this Decision.

The special inspector shall:

1. Be a qualified person who shall demonstrate competence, to the satisfaction of the CBO, for inspection of the particular type of construction requiring special or continuous inspection;
2. Observe the work assigned for conformance with the approved design drawings and specifications;
3. Furnish inspection reports to the CBO and RE. All discrepancies shall be brought to the immediate attention of the RE for correction then, if uncorrected, to the CBO and the CPM for corrective action [2001 CBC, Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector]; and
4. Submit a final signed report to the RE, CBO, and CPM stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans and specifications and the applicable provisions of the applicable edition of the CBC.

   A certified weld inspector, certified by the American Welding Society (AWS) and/or American Society of Mechanical Engineers (ASME) as applicable, shall inspect welding performed on-site requiring special inspection (including structural, piping, tanks, and pressure vessels).

**Verification:** At least 15 days (or project owner and CBO approved alternate timeframe) prior to the start of an activity requiring special inspection, the project owner shall submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the certified weld inspector(s) or other certified special inspector(s) assigned to the project to perform one or more of the duties set forth above. The project owner shall also submit to the CPM a copy of the CBO's approval of the qualifications of all special inspectors in the next Monthly Compliance Report.

If the special inspector is subsequently reassigned or replaced, the project owner has 5 days in which to submit the name and qualifications of the newly assigned special inspector to the CBO for approval. The project owner shall notify the CPM of the CBO's approval of the newly assigned inspector within 5 days of the approval.

**GEN-7** If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend the corrective action required [2001 CBC, Chapter 1, Section 108.4, Approval Required; Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector; Appendix Chapter 33, Section 3317.7, Notification of Noncompliance]. The discrepancy documentation shall be submitted to the CBO for review and approval. The discrepancy documentation shall

reference this Condition of Certification and, if appropriate, the applicable sections of the CBC and/or other LORS.

**Verification:** The project owner shall transmit a copy of the CBO's approval of any corrective action taken to resolve a discrepancy to the CPM in the next Monthly Compliance Report. If any corrective action is disapproved, the project owner shall advise the CPM, within 5 days, of the reason for disapproval and the revised corrective action to obtain CBO's approval.

**GEN-8** The project owner shall obtain the CBO's final approval of all completed work that has undergone CBO design review and approval. The project owner shall request that the CBO inspect the completed structure and review the submitted documents. When the work and the "as-built" and "as-graded" plans conform to the approved final plans, the project owner shall notify the CPM regarding the CBO's final approval. The marked up "as-built" drawings for the construction of structural and architectural work shall be submitted to the CBO. Changes approved by the CBO shall be identified on the "as-built" drawings [2001 CBC, Section 108, Inspections]. The project owner shall retain one set of approved engineering plans, specifications, and calculations at the project site or at another accessible location during the operating life of the project [2001 CBC, Section 106.4.2, Retention of Plans].

**Verification:** Within 15 days of the completion of any work, the project owner shall submit to the CBO, with a copy to the CPM, in the next Monthly Compliance Report: (a) a written notice that the completed work is ready for final inspection; and (b) a signed statement that the work conforms to the final approved plans. After storing final approved engineering plans, specifications, and calculations as described above, the project owner shall submit to the CPM a letter stating that the above documents have been stored and indicate the storage location of such documents.

**CIVIL-1** The project owner shall submit to the CBO for review and approval the following:

1. Design of the proposed drainage structures and the grading plan;
2. An erosion and sedimentation control plan;
3. Related calculations and specifications, signed and stamped by the responsible civil engineer; and
4. Soils Report, Geotechnical Report or Foundation Investigations Report required by the 2001 CBC [Appendix Chapter 33, Section 3309.5, Soils Engineering Report; Section 3309.6, Engineering Geology Report; and Chapter 18, Section 1804, Foundation Investigations].

**Verification:** At least 15 days (or project owner and CBO approved alternate timeframe) prior to the start of site grading, the project owner shall submit the documents described above to the CBO for design review and approval. In the next Monthly Compliance Report following the CBO's approval,

the project owner shall submit a written statement certifying that the documents have been approved by the CBO.

**CIVIL-2** The resident engineer shall, if appropriate, stop all earthwork and construction in the affected areas when the responsible soils engineer, geotechnical engineer, or the civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. The project owner shall submit modified plans, specifications, and calculations to the CBO based on these new conditions. The project owner shall obtain approval from the CBO before resuming earthwork and construction in the affected area [2001 CBC, Section 104.2.4, Stop orders].

**Verification:** The project owner shall notify the CPM, within 24 hours, when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within 24 hours of the CBO's approval to resume earthwork and construction in the affected areas, the project owner shall provide to the CPM a copy of the CBO's approval.

**CIVIL-3** The project owner shall perform inspections in accordance with the 2001 CBC, Chapter 1, Section 108, Inspections; Chapter 17, Section 1701.6, Continuous and Periodic Special Inspection; and Appendix Chapter 33, Section 3317, Grading Inspection. All plant site-grading operations for which a grading permit is required shall be subject to inspection by the CBO.

If, in the course of inspection, it is discovered that the work is not being performed in accordance with the approved plans, the discrepancies shall be reported immediately to the resident engineer, the CBO, and the CPM [2001 CBC, Appendix Chapter 33, Section 3317.7, Notification of Noncompliance]. The project owner shall prepare a written report, with copies to the CBO and the CPM, detailing all discrepancies, non-compliance items, and the proposed corrective action.

**Verification:** Within 5 days of the discovery of any discrepancies, the resident engineer shall transmit to the CBO and the CPM a Non-Conformance Report (NCR) and the proposed corrective action for review and approval. Within 5 days of resolution of the NCR, the project owner shall submit the details of the corrective action to the CBO and the CPM. A list of NCRs for the reporting month shall also be included in the following Monthly Compliance Report.

**CIVIL-4** After completion of finished grading and erosion and sedimentation control and drainage facilities, the project owner shall obtain the CBO's approval of the final "as-built" grading plans for the erosion and sedimentation control facilities. The civil engineer shall state that the work within his/her area of responsibility was done in accordance with the final approved plans [2001 CBC, Section 3318, Completion of Work].

**Verification:** Within 30 days (or project owner and CBO approved alternate timeframe) of the completion of the erosion and sediment control mitigation and drainage facilities, the project owner shall submit to the CBO, with a copy of the transmittal letter to the CPM, the final as-built grading plans and the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes. The project owner shall submit a copy of the CBO's approval to the CPM in the next Monthly Compliance Report.

**STRUC-1** Prior to the start of any increment of construction of any major structure or component listed in **Facility Design Table 1** of Condition of Certification **GEN-2**, above, the project owner shall submit to the CBO for design review and approval the proposed lateral force procedures for project structures and the applicable designs, plans, and drawings for project structures. Proposed lateral force procedures, designs, plans, and drawings shall be those for the following items (from **Table 1**, above):

1. Major project structures;
2. Major foundations, equipment supports, and anchorage;
3. Large field fabricated tanks;
4. Turbine/generator pedestal; and
5. Switchyard structures.

Construction of any structure or component shall not commence until the CBO has approved the lateral force procedures to be employed in designing that structure or component.

The project owner shall:

1. Obtain approval from the CBO of lateral force procedures proposed for project structures;
2. Obtain approval from the CBO for the final design plans, specifications, calculations, soils reports, and applicable quality control procedures. If there are conflicting requirements, the more stringent shall govern (i.e., highest loads, or lowest allowable stresses). All plans, calculations, and specifications for foundations that support structures shall be filed concurrently with the structure plans, calculations, and specifications [2001 CBC, Section 108.4, Approval Required];
3. Submit to the CBO the required number of copies of the structural plans, specifications, calculations, and other required documents of the designated major structures prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation [2001 CBC, Section 106.4.2, Retention of plans; and Section 106.3.2, Submittal Documents];

4. Ensure that the final plans, calculations, and specifications clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. The final designs, plans, calculations, and specifications shall be signed and stamped by the responsible design engineer [2001 CBC, Section 106.3.4, Architect or Engineer of Record]; and
5. Submit to the CBO the responsible design engineer's signed statement that the final design plans conform to the applicable LORS [2001 CBC, Section 106.3.4, Architect or Engineer of Record].

**Verification:** At least 30 days (or project owner and CBO approved alternate timeframe) prior to the start of any increment of construction of any structure or component listed in **Facility Design Table 1** of Condition of Certification **GEN-2** above, the project owner shall submit to the CBO, with a copy of the transmittal letter to the CPM, the above final design plans, specifications, and calculations.

The project owner shall submit to the CPM, in the next Monthly Compliance Report, a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and are in conformance with the requirements set forth in the applicable engineering LORS.

**STRUC-2** The project owner shall submit to the CBO the required number of sets of the following documents related to work that has undergone CBO design review and approval:

1. Concrete cylinder strength test reports (including date of testing, date sample taken, design concrete strength, tested cylinder strength, age of test, type and size of sample, location and quantity of concrete placement from which sample was taken, and mix design designation and parameters);
2. Concrete pour sign-off sheets;
3. Bolt torque inspection reports (including location of test, date, bolt size, and recorded torques);
4. Field weld inspection reports (including type of weld, location of weld, inspection of non-destructive testing (NDT) procedure and results, welder qualifications, certifications, qualified procedure description or number (ref: AWS); and
5. Reports covering other structural activities requiring special inspections shall be in accordance with the 2001 CBC, Chapter 17, Section 1701, Special Inspections; Section 1701.5, Type of Work (requiring special inspection); Section 1702, Structural Observation and Section 1703, Nondestructive Testing.

**Verification:** If a discrepancy is discovered in any of the above data, the project owner shall, within 5 days, prepare and submit an NCR describing the nature of the discrepancies and the proposed corrective action to the CBO, with

a copy of the transmittal letter to the CPM [2001 CBC, Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector]. The NCR shall reference the Condition(s) of Certification and the applicable CBC chapter and section. Within 5 days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM.

The project owner shall transmit a copy of the CBO's approval or disapproval of the corrective action to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within 5 days, the reason for disapproval and the revised corrective action needed to obtain the CBO's approval.

**STRUC-3** The project owner shall submit to the CBO design changes to the final plans required by the 2001 CBC, Chapter 1, Section 106.3.2, Submittal Documents, and Section 106.3.3, Information on plans and specifications, including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes, and shall give to the CBO prior notice of the intended filing.

**Verification:** On a schedule suitable to the CBO, the project owner shall notify the CBO of the intended filing of design changes, and shall submit the required number of sets of revised drawings and the required number of copies of the other above-mentioned documents to the CBO, with a copy of the transmittal letter to the CPM. The project owner shall notify the CPM, via the Monthly Compliance Report, when the CBO has approved the revised plans.

**STRUC-4** Tanks and vessels containing quantities of toxic or hazardous materials exceeding amounts specified in Chapter 3, Table 3-E of the 2001 CBC shall, at a minimum, be designed to comply with the requirements of this Chapter.

**Verification:** At least 30 days (or project owner and CBO approved alternate timeframe) prior to the start of installation of the tanks or vessels containing the above specified quantities of toxic or hazardous materials, the project owner shall submit to the CBO for design review and approval final design plans, specifications, and calculations, including a copy of the signed and stamped engineer's certification.

The project owner shall send copies of the CBO approvals of plan checks to the CPM in the following Monthly Compliance Report. The project owner shall also transmit a copy of the CBO's inspection approvals to the CPM in the Monthly Compliance Report following completion of any inspection.

**MECH-1** The project owner shall submit, for CBO design review and approval, the proposed final design, specifications, and calculations for each plant major piping and plumbing system listed in **Facility Design Table 1**, Condition of Certification **GEN-2**, above. Physical layout drawings and drawings not related to code compliance and life safety need not be submitted. The submittal shall also include the applicable QA/QC

procedures. Upon completion of construction of any such major piping or plumbing system, the project owner shall request the CBO's inspection approval of said construction [2001 CBC, Section 106.3.2, Submittal Documents; Section 108.3, Inspection Requests; Section 108.4, Approval Required; 2001 California Plumbing Code, Section 103.5.4, Inspection Request; Section 301.1.1, Approval].

The responsible mechanical engineer shall stamp and sign all plans, drawings and calculations for the major piping and plumbing systems subject to the CBO design review and approval, and submit a signed statement to the CBO when the said proposed piping and plumbing systems have been designed, fabricated, and installed in accordance with all of the applicable laws, ordinances, regulations and industry standards [Section 106.3.4, Architect or Engineer of Record]. These may include, but not be limited to:

- American National Standards Institute (ANSI) B31.1 (Power Piping Code);
- ANSI B31.2 (Fuel Gas Piping Code);
- ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping Code);
- ANSI B31.8 (Gas Transmission and Distribution Piping Code);
- Title 24, California Code of Regulations, Part 5 (California Plumbing Code for potable water and sanitary sewer piping);
- Title 24, California Code of Regulations, Part 6 (California Energy Code, for building energy conservation systems and temperature control and ventilation systems);
- Title 24, California Code of Regulations, Part 2 (California Building Code); and
- Specific City/County code.

The CBO may deputize inspectors to carry out the functions of the code enforcement agency [2001 CBC, Section 104.2.2, Deputies].

**Verification:** At least 30 days (or project owner and CBO approved alternate timeframe) prior to the start of any increment of major piping or plumbing construction listed in **Facility Design Table 1**, Condition of Certification **GEN-2** above, the project owner shall submit to the CBO for design review and approval the final plans, specifications, and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

The project owner shall transmit to the CPM, in the Monthly Compliance Report following completion of any inspection, a copy of the transmittal letter conveying the CBO's inspection approvals.

**MECH-2** For all pressure vessels installed in the plant, the project owner shall submit to the CBO and California Occupational Safety and Health Administration (Cal-OSHA), prior to operation, the code certification papers and other documents required by the applicable LORS. Upon completion of the installation of any pressure vessel, the project owner shall request the appropriate CBO and/or Cal-OSHA inspection of said installation [2001 CBC, Section 108.3, Inspection Requests].

The project owner shall:

1. Ensure that all boilers and fired and unfired pressure vessels are designed, fabricated, and installed in accordance with the appropriate section of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, or other applicable code. Vendor certification, with identification of applicable code, shall be submitted for prefabricated vessels and tanks; and
2. Have the responsible design engineer submit a statement to the CBO that the proposed final design plans, specifications, and calculations conform to all of the requirements set forth in the appropriate ASME Boiler and Pressure Vessel Code or other applicable codes.

**Verification:** At least 30 days (or project owner and CBO approved alternate timeframe) prior to the start of on-site fabrication or installation of any pressure vessel, the project owner shall submit to the CBO for design review and approval the above listed documents, including a copy of the signed and stamped engineer's certification, with a copy of the transmittal letter to the CPM.

The project owner shall transmit to the CPM, in the Monthly Compliance Report following completion of any inspection, a copy of the transmittal letter conveying the CBO's and/or Cal-OSHA inspection approvals.

**MECH-3** The project owner shall submit to the CBO for design review and approval the design plans, specifications, calculations and quality control procedures for any heating, ventilating, air conditioning (HVAC) or refrigeration system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer's data sheets.

The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the CBC and other applicable codes. Upon completion of any increment of construction, the project owner shall request the CBO's inspection and approval of said construction. The final plans, specifications, and calculations shall include approved criteria, assumptions, and methods used to develop the design. In addition, the responsible mechanical

engineer shall sign and stamp all plans, drawings, and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications, and calculations conform with the applicable LORS [2001 CBC, Section 108.7, Other Inspections; Section 106.3.4, Architect or Engineer of Record].

**Verification:** At least 30 days (or project owner and CBO approved alternate timeframe) prior to the start of construction of any HVAC or refrigeration system, the project owner shall submit to the CBO, with a copy of the transmittal letter to the CPM, the required HVAC and refrigeration calculations, plans and specifications, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the CBC and other applicable codes.

**ELEC-1** Prior to the start of any increment of electrical construction for electrical equipment and systems 480 volts and higher, listed below, with the exception of underground duct work and any physical layout drawings and drawings not related to code compliance and life safety, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications, and calculations [CBC 2001, Section 106.3.2, Submittal Documents]. Upon approval, the above listed plans, together with design changes and design change notices, shall remain on the site or at another accessible location for the operating life of the project. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS [2001 CBC, Section 108.4, Approval Required, and Section 108.3, Inspection Requests]. All transmission facilities (lines, switchyards, switching stations, and substations) are addressed in Conditions of Certification in the **Transmission System Engineering** section of this Decision.

A. Final plant design plans to include:
   1. one-line diagrams for the 13.8 kV, 4.16 kV, and 480 V systems; and
   2. system grounding drawings.

B. Final plant calculations to establish:
   1. short-circuit ratings of plant equipment;
   2. ampacity of feeder cables;
   3. voltage drop in feeder cables;
   4. system grounding requirements;
   5. coordination study calculations for fuses, circuit breakers, and protective relay settings for the 13.8 kV, 4.16 kV, and 480 V systems;

6. system grounding requirements; and
7. lighting energy calculations.

C. The following activities shall be reported to the CPM in the Monthly Compliance Report:
   1. Receipt or delay of major electrical equipment;
   2. Testing or energization of major electrical equipment; and
   3. A signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission Decision.

**Verification:** At least 30 days (or project owner and CBO approved alternate timeframe) prior to the start of each increment of electrical construction, the project owner shall submit to the CBO for design review and approval the above listed documents. The project owner shall include in this submittal a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

## B. POWER PLANT EFFICIENCY

In accordance with CEQA, the Commission must consider whether the project's consumption of energy in the form of non-renewable fuel will result in adverse environmental impacts on energy resources. [Cal. Code of Regs., tit. 14, § 15126.4(a)(1), Appendix F.] This analysis reviews the efficiency of project design and identifies measures that prevent wasteful, inefficient, or unnecessary energy consumption. The evidence presented was uncontested. (8/25/03 RT 26-27.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

Pursuant to CEQA Guidelines, Staff assessed whether the WEC's use of natural gas would result in: (1) an adverse effect on local and regional energy supplies and resources; (2) the need for additional energy supply capacity; or (3) the wasteful, inefficient, and unnecessary consumption of fuel or energy. (Ex. 11, pp. 5.3-1 to 5.3-3.)

Under normal operating conditions, the WEC will burn natural gas at a nominal rate of 2095 MM Btu per hour, higher heating value (HHV). Although the project is expected to generate electricity at a full load thermal efficiency of about 50 percent (as compared to average efficiency of utility baseload plants of 35 percent), it constitutes a substantial rate of energy consumption that could impact energy supplies or resources. (Ex. 11, p. 5.3-2.)

Natural gas will be supplied from the existing PG&E line 215, via a new 3.6 mile section of 8-inch pipeline. This source will provide much more natural gas than is required for a project this size. The project will thus not cause a substantial increase in demand for natural gas. (Ex. 11, pp. 5.3-2 to 5.3-3.)

Project fuel efficiency, and therefore its rate of energy consumption, is determined by the configuration of the power producing system and by selection

of generating equipment. The WEC is configured as a combined-cycle power plant, in which electricity will be produced by two gas turbines and additionally by a reheat steam turbine that operates on heat energy recuperated from gas turbine exhaust. By recovering this heat which would otherwise be lost up the exhaust stacks, the efficiency of a combined-cycle power plant is considerably increased compared with either a gas turbine or a steam turbine operating alone. Project efficiency is also enhanced by use of inlet air coolers, three-pressure HRSGs, and a steam turbine unit and circulating water system. The evidence establishes that the proposed configuration is an effective and efficient means of meeting project objectives. (Ex. 11, pp. 5.3-3 to 5.3-5.)

The evidence of record also shows that modern gas turbines represent the most fuel-efficient electric generating technology available. The WEC will use General Electric 7EA combustion turbine generators in a two-on-one combined cycle power train, nominally rated at 263 MW with a 50.9 percent efficiency LHV at ISO conditions. (Ex. 11, p. 5.3-3.) This generator does not represent the current standard in fuel efficiency. However, the two-train CT/HRSG configuration allows for high efficiency during unit turndown because one CT can be shut down, while the other can continue to operate fully loaded instead of running both CTs at an inefficient 50 percent load. (Ex. 11, p. 5.3-4.) The evidence thus establishes that the Frame 7EA is acceptable for a nominal 250 MW power plant with load following capabilities due to the flexibility of the two-on-one configuration and the longevity of the gas turbine. (Ex. 11, p. 5.3-4.)

**FINDINGS AND CONCLUSIONS**

Based upon the uncontested evidence of record, we find and conclude as follows:

1. The WEC project will consist of two GE Frame 7EA combustion turbine generators with evaporative inlet air-cooling. Under expected project conditions, electricity will be generated at a baseload (250 MW) efficiency of approximately 50 percent LHV.

2. Existing natural gas resources far exceed the fuel requirements of the project.

3. WEC will not consume natural gas in a wasteful, inefficient, or unnecessary manner.

4. The project configuration and choice of generating equipment represent an acceptable combination to achieve project objectives.

5. The project will not require additional sources of energy supply.

6. The project will have no significant adverse impacts on energy resources.

The Commission therefore concludes that The WEC will not cause any significant direct or indirect adverse impacts upon energy resources. No Conditions of Certification are required for this topic.

## C. POWER PLANT RELIABILITY

We must determine whether the project will be designed, sited, and operated to ensure safe and reliable operation. [Pub. Resources Code, § 25520(b); Cal. Code of Regs., tit. 20, § 1752(c)(2).] However, there are currently no LORS that establish either power plant reliability criteria or procedures for attaining reliable operation. The evidence presented on this topic was uncontested. (8/25/03 RT 27-28.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The evidence indicates that a power plant is acceptable if it does not degrade the reliability of the utility system to which it is connected. This is likely if the project exhibits reliability at least equal to that of other power plants on the system. Reliable operation is a combination of factors, i.e., the power plant should be available when called upon to operate and it should be expected to operate for extended periods without shutdown for maintenance or repairs. Project safety and reliability are achieved by ensuring equipment availability, plant maintainability, fuel and water availability, and adequate resistance to natural hazards. (Ex. 11, p. 5.4-1.)

The project owner will ensure equipment availability by use of quality assurance/quality control programs (QA/QC) which include inventory review and equipment inspection and testing on a regular basis during design, procurement, construction, and operation. Qualified vendors of plant equipment and materials will be selected based on past performance and independent testing contracts to ensure that reliable equipment is acquired.

The evidentiary record further indicates that the project's design includes redundancy of equipment sufficient to ensure continued operation in the event of equipment failure. The project's two trains (of CTs/HSRGs) provide inherent

reliability allowing the facility to operate at a reduced output in the event that a non-redundant component in one train should fail. (Ex. 11, pp. 5.4-2 to 5.4-3.) Project maintenance will be typical of the industry, including preventative and predictive techniques. Any necessary maintenance outages will be planned for periods of low electricity demand. (Ex.11, p. 5.4-3.)

Reasonable long-term availability of fuel and water is also necessary to ensure project reliability. As discussed in the section on **Power Plant Efficiency**, PG&E will supply natural gas through the existing gas system supply near the project site. The record indicates that PG&E's natural gas system offers adequate supply and pipeline capacity to meet project needs. Similarly, the evidence establishes that the City of Turlock will reliably supply both recycled water and potable water to the project. (Ex. 11, p. 5.4-4.)

The site is located in Seismic Zone 3. The WEC will be designed and constructed to comply with current applicable LORS for seismic design. These standards improve seismic stability compared with older power plants, and ensure that the project will perform at least as well as existing plants in the electrical system. The Conditions of Certification in the **Facility Design** section of this Decision ensure that the project will conform with seismic design LORS.

TID predicts the project will have an annual availability factor of 92 to 98 percent. Industry statistics for power plant availability, which are compiled by the North American Electric Reliability Council (NERC), show an availability factor of 90.31 percent for combined-cycle units of all sizes. (Ex. 11, p. 5.4-4.) The project's predicted availability factor appears reasonable since the GE 7 EA turbines been on the market for several years and exhibit typically high availability. Finally, the evidence shows that the procedures for design, procurement, and construction are in keeping with industry norms and will likely result in an adequately reliable plant. (Ex. 11, p. 5.4-5.)

## FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and reaches the following conclusions:

1. Implementation of Quality Assurance/Quality Control programs during design, procurement, construction, and operation of the plant, and adequate maintenance and repair of the equipment and systems, will ensure the project is adequately reliable.

2. Adequate fuel and water capacity are available for project operations.

3. The project's estimated 92 to 98 percent availability factor is consistent with industry norms for power plant reliability.

4. The project will meet industry norms for reliability, including reliability during seismic events, and will not degrade the overall electrical system.

We therefore conclude that the project will be constructed and operated in accordance with typical power industry norms for reliable electricity generation. No Conditions of Certification are required for this topic. To ensure implementation of the QA/QC programs and conformance with seismic design criteria as described above, appropriate Conditions of Certification are included in the **Facility Design** portion of this Decision.

## E. TRANSMISSION LINE SAFETY AND NUISANCE

The project's transmission lines must be constructed and operated in a manner that protects environmental quality, assures public health and safety, and complies with applicable law. This section summarizes the analysis of record concerning the potential impacts of the project's transmission tie-line on aviation safety, radio-frequency interference, audible noise, fire hazards, nuisance shocks, hazardous shocks, and electromagnetic field exposure. The evidence presented was uncontested.[6] (9/29/03 RT 23-25.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The Walnut Energy Center will be interconnected to adjacent TID transmission lines via 1,950 feet of new 115 kV and 670 feet of new 69 kV transmission pole extensions. The specific segments are:

- One double-circuit overhead 115 kV line extending 1,950 feet from the project's 115 kV switchyard to the connection point on the 115 kV Walnut-Hilmar transmission line;
- One double-circuit 69 kV line extending 670 feet from the project's 69 kV switchyard to the connection point on the 69 kV Walnut-Industrial Line 2 transmission line; and
- The project's on-site 69 kV and 115 kV switchyard.

With the exception of two perpendicular road crossings, the lines will be extended entirely on the Walnut Energy Center parcel. No off-site transmission line construction will take place as a direct result of this project.

[6] We have incorporated suggested changes to the Conditions of Certification. (9/29/03 RT 24; Exs. 11, 47.)

1. Aviation Hazards

There are three airfields located within 6 miles of the proposed project and related lines. Turlock Air Park is located about 2.9 miles to the south and east. The other two airfields are small private landing strips located approximately 4 miles and 5 miles south and southeast of the site. Given these relatively long distances and the orientation of their respective runways, the proposed lines are unlikely to pose a significant obstruction-related aviation hazard when analyzed according to current Federal Aviation Administration (FAA) criteria. Moreover, the maximum height of the proposed lines (at 110 feet) would be too low to cause a collision hazard as defined by the FAA. Therefore, no FAA "Notice of Construction or Alternation" is required. (Ex. 11, p. 4.11-8.)

2. Audible Noise and Radio Frequency Interference

The proposed transmission lines will be designed, built, and maintained to minimize the features responsible for line-related audible noise and interference with radio or television reception. Corona-related communications interference is most commonly caused by irregularities (such as nicks and scrapes on the conductor surface), sharp edges on suspension hardware, and other discontinuities around the conductor surface. The proposed lines will be built and maintained according to standard TID practices minimizing such surface irregularities and discontinuities. In the event that interference related complaints do occur, Condition **TLSN-3** requires they be addressed. Therefore, it is unlikely that operation of the lines will add significantly to current background noise levels in the project area. (Ex. 11, pp. 4.11-8 to 4.11-9.)

3. Fire Hazard

The potential for fires affecting the transmission lines is minimized by the general absence of trees, brush, or other large combustible objects within the lines' routes. (Ex. 1, pp. 5-14, 5-17; Ex. 11, pp. 4.10-8 to 4.10-9.) Compliance with GO-95 requirements will ensure that the proposed lines are adequately located away from trees and other combustible objects to prevent contact-related fires or minimize such fires when they occur.

4. Shock Hazards

Compliance with applicable regulations and standards designed to prevent hazardous or nuisance shocks to workers or the general public is required (Condition **TLSN-2**). This is adequate to mitigate potential impacts.

5. Electric and Magnetic Field Exposure

The possibility of deleterious health effects from exposure to electric and magnetic fields (EMF) has raised public health concerns about living near high-voltage lines[7]. Applicant will employ field reduction measures including: a) increase the distance between the conductors and the ground; b) reduce the spacing between the conductors; c) minimize the current in the line; and d) arrange current flow to maximize the cancellation effects from interacting fields from nearby conductors.

[7] While scientific research has not established a definitive correlation between EMF exposure and adverse health effects, the potential for EMF-related health hazards remains at issue. In this regard, the CPUC requires the regulated utilities to incorporate EMF-reducing measures in the design, construction, and maintenance of new transmission facilities and to operate existing facilities in accordance with those measures. TID will comply with these provisions.

Since the electric fields are produced by line voltage, ground-level intensities may change at specific locations due to the interactive effects of fields from the conductors of nearby or interconnected lines. Field strength estimates were calculated to reflect the maximum field intensities along the routes of the proposed lines, the routes of the existing lines, and the respective interconnection points with the existing lines. (Ex. 1, pp. 5-10 and 5-11.)

The evidence indicates that the maximum strengths of the electric fields from all the existing area lines range from 0.17 kV/m to 0.39 kV/m. This is within the normal background levels of 1.0 kV/m, or less. The maximum intensity of the electric fields from the existing 115 kV line is 0.30 kV/m. Since this line is of the same voltage and design as the proposed 115 kV WEC line, both this line and the companion 69 kV WEC line will be unlikely to significantly add to area electric fields within their respective routes.

The maximum magnetic field estimates within all area rights-of-way, without the energy from WEC, is 33.51 milligauss (mG) at the centerline, diminishing to 4.23 mG 100 feet from the centerline. The maximum field strength with the added current from the proposed WEC is 34.60 mG, diminishing to 3.95 mG 100 feet away. (Ex. 11, p. 4.10-10.) This project-related increase is insignificant with respect to human exposure. These fields are much lower than the 150 to 250 mG established (depending on voltage level) for the edges of the rights-of-way by the few states with regulatory limits on magnetic fields. The procedures required in Condition **TLSN-4** will verify the accuracy of these estimated EMF levels.

Since the routes of both lines will pass through open farmland or areas zoned and designated for industrial uses (with the nearest residence located about 375 feet from the site), the residential magnetic field exposure is insignificant. This lack of nearby residences means that the previously noted electric field-related communication impacts would even be more unlikely from operations. The only

project-related EMF exposures of potential significance are the short-term exposures of plant workers, regulatory inspectors, maintenance personnel, visitors, or individuals in transit under the project's lines. These types of exposures are not significantly related to the present health concern. (Ex. 11, p. 4.10-7.)

## FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and reaches the following conclusions:

1. The proposed line design and operational plan is adequate to ensure that the electric and magnetic fields generated are managed to an acceptable extent, given the available health effects information.

2. Long-term electromagnetic field exposure is insignificant in this case because of the general absence of residences along the proposed route. On-site worker or public exposure will be short-term and at levels expected for TID lines of similar design and current-carrying capacity. This type of exposure has not been established as posing a significant human health hazard.

3. The potential for nuisance shocks will be minimized through grounding and other field-reducing measures. These will be implemented in keeping with current TID guidelines (reflecting standard industry practices).

4. Compliance with applicable law will adequately minimize any fire hazards.

5. Since there are no major airports or aviation centers in the immediate project area, the proposed lines will not pose a significant aviation hazard.

6. The use of low-corona line design, together with appropriate corona-minimizing construction practices, minimizes the potential for corona noise and its related interference with radio-frequency communication.

7. The Conditions of Certification reasonably ensure that the project's transmission lines will not have significant adverse environmental impacts on public health and safety, nor cause impacts in terms of aviation safety, radio/TV communication interference, audible noise, fire hazards, nuisance or hazardous shocks, or electromagnetic field exposure.

We therefore conclude that with implementation of the Conditions of Certification, the project will conform with all applicable laws, ordinances, regulations, and standards relating to Transmission Line Safety and Nuisance as identified in the pertinent portion of **APPENDIX A** of this Decision.

## CONDITIONS OF CERTIFICATION

**TLSN-1** The project owner shall provide specific evidence that the proposed interconnection transmission lines will be designed and constructed by TID according to the requirements of CPUC's GO-95, GO-52, Title 8, Sections 2700 et seq. of the California Code of Regulations, and TID's EMF reduction guidelines arising from CPUC Decision 93-11-013.

**Verification:** At least 30 days before starting construction of WEC's transmission lines or related structures and facilities, the project owner shall submit to the Commission's Compliance Project Manager (CPM) a letter from TID affirming that the overhead section will be constructed according to the requirements of GO-95, GO 52, Title 8, Section 2700 et seq. of the California Code of Regulations, and TID's EMF-reduction guidelines arising from CPUC Decision 93-11-013.

**TLSN-2** The project owner shall provide specific evidence that all metallic objects along the route of the overhead section will be grounded according to TID practices reflecting standard industry practices.

**Verification:** At least 30 days before the lines are energized, the project owner shall transmit to the CPM a letter confirming compliance with the specified grounding requirements, as is standard TID practice.

**TLSN-3** The project owner shall provide specific evidence that reasonable steps will be taken to resolve any complaints of interference with radio or television signals from operation of the proposed lines.

**Verification:** The project owner shall provide a letter specifying its intention to prepare a summary of line-related complaints along with related mitigation measures for the first 5 years of operation. The project owner shall provide such summary reports to the CPM in an annual report.

**TLSN-4** The project owner shall provide the results of the electric and magnetic field measurements for the existing and proposed lines (according to IEEE measurement protocols) before and after they are energized. Measurements shall be made at representative points (on-site and along the line route) as necessary to identify the maximum field exposures possible during WEC operations. The locations for such measurements are those identified in Exhibit 1 (the AFC) as

Points A, B, C, D, and E and for which field strength estimates were provided.

**Verification:** The project owner shall submit the field measurement results to the CPM within 60 days of completion.

# V. PUBLIC HEALTH AND SAFETY ASSESSMENT

Operation of the WEC will create combustion products and utilize certain hazardous materials that could potentially cause adverse health effects to the general public and to the workers at the facility. The following sections describe the regulatory programs, standards, protocols, and analyses that address these issues.

## A. AIR QUALITY

This section examines the potential adverse impacts of criteria air pollutant emissions resulting from project construction and operation. In consultation with the local air pollution control district, the Commission determines whether the project will likely conform with applicable LORS, whether it will likely result in significant air quality impacts, including violations of ambient air quality standards, and whether the project's proposed mitigation measures will likely reduce potential impacts to insignificant levels.

The parties reached agreement on the majority of relevant issues, including Conditions relating to construction mitigation. (9/29/03 RT 45; Applicant's Opening Brief, pp. 8-9; Staff's Opening Brief, p. 1.) Discussion at the evidentiary hearings therefore revolved around the proposed verification to condition **AQ-47** and proposed conditions **AQ-C6** and **AQ-C8**. (9/29/03 RT 45, 55-58, 90-91.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

National ambient air quality standards (NAAQS) have been established for seven air contaminants identified as "criteria air pollutants." These include sulfur dioxide ($SO_2$), carbon monoxide (CO), ozone ($O_3$), nitrogen dioxide ($NO_2$), lead (Pb), particulate matter less than 10 microns in diameter ($PM_{10}$), and particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). The review of potential impacts also includes the precursor pollutants for ozone, which are nitrogen oxides ($NO_x$) and volatile organic

compounds (VOC), as well as the precursors for $PM_{10}$ and $PM_{2.5}$, which are primarily $NO_x$, sulfur oxides ($SO_x$), and ammonia ($NH_3$).

The federal Clean Air Act[8] requires new major stationary sources of air pollution to comply with federal requirements in order to obtain authority-to-construct permits. The U.S. Environmental Protection Agency (USEPA), which administers the Clean Air Act, has designated all areas of the United States as attainment/unclassified (air quality better than the NAAQS or unable to determine) or nonattainment (worse than the NAAQS) for criteria air pollutants, with the exception of $PM_{2.5}$, for which attainment classifications have not yet been designated.

There are two major components of air pollution law: New Source Review (NSR) for evaluating pollutants that violate federal standards, and Prevention of Significant Deterioration (PSD) for evaluating those pollutants that do not violate federal standards. Enforcement of NSR and PSD rules is typically delegated to local air districts. In this case, the San Joaquin Valley Unified Air Pollution Control District (Air District or SJVUAPCD) is the local authority.

Both the USEPA and the California Air Resources Board (CARB) have established allowable maximum ambient concentrations for criteria pollutants. The California Ambient Air Quality Standards (CAAQS) are more stringent than federal standards. The Federal and State ambient air quality standards[9] applicable to the WEC are shown in **AIR QUALITY Table 1** below.

[8] Title 42, United States Code, section 7401 et. seq.

[9]The standards are read as a mass fraction, in parts per million (ppm), or as a concentration in milligrams or micrograms of pollutant per cubic meter of air ($mg/m^3$ or $\mu g/m^3$ ).

## AIR QUALITY Table 1

## Federal and State Ambient Air Quality Standards

| Pollutant | Averaging Time | Federal Standard | California Standard |
|---|---|---|---|
| Ozone ($O_3$) | 1 Hour | 0.12 ppm (235 µg/$m^3$) | 0.09 ppm (180 µg/$m^3$) |
| | 8 Hour | 0.08 ppm (160 µg/$m^3$) | — |
| Carbon Monoxide (CO) | 8 Hour | 9 ppm (10 mg/$m^3$) | 9 ppm (10 mg/$m^3$) |
| | 1 Hour | 35 ppm (40 mg/$m^3$) | 20 ppm (23 mg/$m^3$) |
| Nitrogen Dioxide ($NO_2$) | Annual Average | 0.053 ppm (100 µg/$m^3$) | — |
| | 1 Hour | — | 0.25 ppm (470 µg/$m^3$) |
| Sulfur Dioxide ($SO_2$) | Annual Average | 0.03 ppm (80 µg/$m^3$) | — |
| | 24 Hour | 0.14 ppm (365 µg/$m^3$) | 0.04 ppm (105 µg/$m^3$) |
| | 3 Hour | 0.5 ppm (1300 µg/$m^3$) | — |
| | 1 Hour | — | 0.25 ppm (655 µg/$m^3$) |
| Respirable Particulate Matter ($PM_{10}$) | 24 Hour | 150 µg/$m^3$ | 50 µg/$m^3$ |
| | Annual Arithmetic Mean | 50 µg/$m^3$ | 20 µg/$m^3$— |
| Fine Particulate Matter ($PM_{2.5}$) | Annual Arithmetic Mean | 15 µg/$m^3$ | 12 µg/$m^3$— |
| | 24 Hour | 65 µg/$m^3$ | — |
| Sulfates ($SO_4$) | 24 Hour | — | 25 µg/$m^3$ |
| Lead | 30 Day Average | — | 1.5 µg/$m^3$ |
| | Calendar Quarter | 1.5 µg/$m^3$ | — |
| Hydrogen Sulfide ($H_2S$) | 1 Hour | — | 0.03 ppm (42 µg/$m^3$) |
| Vinyl Chloride (chloroethene) | 24 Hour | — | 0.010 ppm (26 µg/$m^3$) |
| Visibility Reducing Particulates | 1 Observation (8 hour) | — | In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent. |

Source: Exhibit 11, pp. 4.1-9 to 4.1-10.

The USEPA, CARB, and the local air district classify an area as attainment, unclassified, or nonattainment with the ambient air quality standards based on the monitored ambient air quality data. The WEC is located within the San Joaquin Valley Air Basin; this area is designated as nonattainment for both the federal and state ozone and $PM_{10}$ standards. **AIR QUALITY Table 2** summarizes the federal and state attainment status of criteria pollutants for the San Joaquin Valley Air Basin.

**AIR QUALITY Table 2**
**Federal and State Attainment Status for the San Joaquin Valley Air Basin**

| Pollutant | Attainment Status | |
|---|---|---|
| | **Federal** | **State** |
| Ozone – One hour | Severe Nonattainment | Severe Nonattainment |
| CO | Unclassified/Attainment | Attainment |
| $NO_2$ | Unclassified/Attainment | Attainment |
| $SO_2$ | Unclassified | Attainment |
| $PM_{10}$ | Serious Nonattainment | Nonattainment |
| Lead | No Designation | Attainment |

Source: Exhibit 11, p. 4.1-10.

Air emissions will result during both the project's construction and operational phases.

1. Construction Impacts

The greatest fugitive dust emissions will result from earthmoving activities such as site clearing, grading, excavation, and backfilling. Construction equipment such as trucks, bulldozers, graders, and welding machines will create exhaust emissions. These emissions will occur over the 22 to 24 month construction schedule for the power plant and its associated linear facilities. (Ex. 11, pp.4.1-22 to 4.1-24.)

The evidence characterizes the short-term construction impacts as follows:

**AIR QUALITY Table 3**
**WEC Ambient Air Quality Impact**
**Construction**

| Pollutant | Averaging Period | Project Impact ($\mu g/m^3$) | Background ($\mu g/m^3$) [b] | Total Impact ($\mu g/m^3$) | Limiting Standard ($\mu g/m^3$) | Type of Standard | Percent of Standard |
|---|---|---|---|---|---|---|---|
| $NO_2$ [a] | one-hour | 255 | 180 | 435 | 470 | CAAQS | 93 |
| | Annual | 19.0 | 34.0 | 53.0 | 100 | NAAQS | 53 |
| $PM_{10}$ | 24-Hour | **68** | **148** | **216** | 50 | CAAQS | **432** |
| | Annual Arithmetic | **8.9** | **39** | **47.9** | 20 | CAAQS | **240** |
| CO | one-hour | 550 | 5,730 | 6,280 | 23,000 | CAAQS | 27 |
| | eight-hour | 185 | 4,046 | 4,231 | 10,000 | CAAQS | 42 |
| $SO_2$ | one-hour | 0.85 | 47.2 | 48.1 | 655 | CAAQS | 7 |
| | three-hour | 0.66 | 41.6 | 42.3 | 1,300 | NAAQS | 3 |
| | 24-Hour | 0.17 | 23.5 | 23.7 | 105 | CAAQS | 23 |
| | Annual | 0.03 | 5.2 | 5.2 | 80 | NAAQS | 7 |

Source: Exhibit 11, p. 4.1-35.

As shown above, the construction phase's $PM_{10}$ impacts will contribute to the existing exceedance of the ambient air quality standards. Maximum $NO_x$, CO, and $SO_2$ impacts will remain below applicable standards.

Although Applicant and Staff have differences over the need for construction mitigation measures other than those necessary to comply with Air District Regulation VIII (Ex. 45, pp. 12-19; conditions **AQ-105** through **AQ-111**), these parties nevertheless agreed to Conditions of Certification **AQ-C1** though **AQ-C4** which specify mitigation during the construction period. (9/29/03 RT 45, 55; Ex. 47.) As a result, the evidence of record is uncontradicted in establishing that providing an on-site construction monitor (condition **AQ-C1)**, developing a construction mitigation plan which includes reporting requirements (condition **AQ-C2**), specifying fugitive dust and diesel exhaust measures (condition **AQ-C3**), and controlling visible dust emissions (condition **AQ-C4**) will ensure

that construction impacts will be mitigated to the appropriate extent. (Ex. 11, pp. 4.1-43 to 4.1-44.) We have incorporated these conditions below.

2. Operational Impacts

The record contains a thorough air quality impact analysis using dispersion models required by the USEPA and the SJVUAPCD which employ a number of worst-case assumptions. (9/29/03 RT 50-51; Ex. 1, pp. 8.1-41 to 8.1-53.) Specifically, the analysis assumes worst-case operating scenarios, worst-case emissions, and worst-case weather conditions at the project site. (9/29/03 RT 51.) The analysis makes these combined worst-case assumptions even if those conditions physically cannot occur at the same time. The purpose of the conservative assumptions is to make sure that the WEC project will not cause any violations of any state or federal air quality standards at *any* location, at *any* time, under *any* weather conditions, or under *any* operating conditions. (9/29/03 RT 51.) The modeling for project operations quantifies emissions and relates them to ambient air quality standards, as shown in **AIR QUALITY Table 4**, following.

The evidence establishes that project operations will not create any new violations of state or federal air quality standards, but will contribute to existing violations of state and federal ozone standards, as well as the state $PM_{10}$ standard. (9/29/03 RT 50 – 52; Applicant's Opening Brief, p. 7.)

There is no dispute that the project will meet all local Air District requirements by using Best Available Control Technology (BACT). (9/29/03 RT36, 49-50, 92-93.) This means that an oxidation catalyst will limit carbon monoxide (CO) emissions to 4.0 ppmvd at 15% $O_{2,}$ averaged over three hours. (Ex. 41, p. 25.) Dry, low-$NO_x$ combustors and SCR will limit the $NO_x$ emission concentration to 2.0

**AIR QUALITY Table 4**

**WEC Ambient Air Quality Impact**

**Operational**

| Pollutant | Averaging Period | Project Impact ($\mu g/m^3$) | Background ($\mu g/m^3$) [f] | Total Impact ($\mu g/m^3$) | Limiting Standard ($\mu g/m^3$) | Type of Standard | Percent of Standard |
|---|---|---|---|---|---|---|---|
| $NO_2$ | one-hour | 8.26 [a] | 157 | 165.3 | 470 | CAAQS | 35 |
| | Annual | 0.60 [b] | 34.0 | 34.6 | 100 | NAAQS | 35 |
| $PM_{10}$ | 24-Hour | 2.03 [e] | **148** | 150.0 | 50 | CAAQS | **300** |
| | Annual | 0.27 | **39** | **39.3** | 20 | CAAQS | **197** |
| CO [c] | one-hour | 10.1 | 5,730 | 5,740 | 23,000 | CAAQS | 25 |
| | eight-hour | 3.16 | 4,046 | 4,049 | 10,000 | CAAQS | 40 |
| $SO_2$ [d] | one-hour | 1.13 | 47.2 | 48.3 | 655 | CAAQS | 7 |
| | three-hour | 0.50 | 41.6 | 42.1 | 1,300 | NAAQS | 3 |
| | 24-Hour | 0.18 | 23.5 | 23.7 | 105 | CAAQS | 23 |
| | Annual | 0.02 | 5.2 | 5.2 | 80 | NAAQS | 7 |

a. Does not include worst-case fire pump impacts. Worst-case one-hour $NO_2$ impacts from the fire pump, which will be operated for testing purposes only one hour per week, using ISC_OLM with concurrent ozone data from Modesto 14th Street monitoring station would be 258.3 $\mu g/m^3$.
b. Modeled annual $NO_x$ corrected to $NO_2$ using ARM default value of 0.75.
c. Worst-case one-hour and eight-hour CO impacts from the fire pump during normal testing operations would be 112.6 $\mu g/m^3$ and 14.1 $\mu g/m^3$, respectively.
d. Worst-case one-hour, three-hour, and 24-hour $SO_2$ impacts from the fire pump during normal testing operations would be 62.6 $\mu g/m^3$, 20.9 $\mu g/m^3$, and 2.6 $\mu g/m^3$, respectively.
e. Worst-case 24-hour $PM_{10}$ impacts from the fire pump during normal testing operations would 1.6 $\mu g/m^3$.
f. Background values have been adjusted per staff recommended background concentrations shown in AIR QUALITY Table 9.

Source: Exhibit 11, p. 4.1-37.

ppmvd at 15% $O_2$, averaged over one hour, for virtually all operating modes except turbine start-ups and shutdowns. (Ex. 1, p. 8.1-59; 41, Attachment A, p. A-5.) Reactive Organic Gases (ROG) will be controlled to 2.0 ppmvd at 15%, averaged over three hours. Natural gas will limit emissions of $PM_{10}$ and $SO_2$. (Ex. 41, p. 25.) Applicant has also specifically identified and purchased a sufficient quantity of emission reduction credits (ERC) to adequately mitigate operational impacts. (Ex. 11, pp. 4.1-47 to 4.1-53.)

Thus, the parties agree to the project's effects and appropriate mitigation to a substantial extent[10]. They disagree, however, over the appropriate level of permissible ammonia emissions as well as the method for adequately ensuring the validity of two ERC certificates. We discuss these below.

a. Ammonia Slip

The SCR system used to control $NO_x$ emissions will emit ammonia that remains in the exhaust after passing through the catalyst system. These ammonia emissions ("ammonia slip") also come from the cooling tower exhaust due to the ammonia in the reclaimed water used in the cooling tower. (Ex. 11, p. 4.1-40.) These emissions, in turn, may lead to the formation of secondary particulate or $PM_{2.5}$.

The permissible level of ammonia slip varies by Air District. For example, while the South Coast Air Quality Management District specifies a limit of 5 ppm to meet its BACT requirements, the SJVUAPCD has determined that a 10 ppm limit is BACT and has specified that level in its Final Determination of Compliance. (9/29/03 RT 36, 118-119; see also Condition **AQ-31**.) In establishing the 10 ppm level as BACT, the Air District decided to emphasize control of $NO_x$ emissions, having concluded that limiting potential formation of secondary particulates was a lesser priority. (9/29/03 RT 41-44, 64.) The evidence further establishes that limiting ammonia slip to 5 ppm is technically feasible and compatible with maintaining the 2 ppm $NO_x$ emission limit imposed. (9/29/03 RT 42, 84-86.)

[10] Although not disagreeing, the parties also discussed the suitable means of demonstrating that the Air District had approved, for example, a source test plan appearing in several conditions such as **AQ-46** through **AQ-51**. (Ex. 47.) Applicant voiced the understanding that it could confirm approval orally (9/29/03 RT 58 – 59). Staff explained its understanding that the Air District would make written confirmation available, and that Staff would also accept a verbal or electronic confirmation. (9/29/03 RT 108-115.)

In Staff's view, increased ammonia emissions result in increased particulate matter. (9/29/03 RT 94-95, 152.) Staff maintains that reducing ammonia slip to 5 ppm from 10 ppm will result in about a 15 percent reduction of particulate matter. (Ex. 11, p. 4.1-5.2; Staff's Opening Brief, pp. 4-5.) Staff urges us to adopt this reduced limit, characterizing it as "progress" in mitigating impacts due to technological improvements. (9/29/03 RT 97-98.) Staff also explained that it has made this recommendation for the majority of other similar power plant configurations recently licensed by the Commission, and that it has arrived at this recommendation after weighing a variety of considerations. (9/29/03 RT, 121-126, 151-152.)

Applicant points out that the San Joaquin Valley is "ammonia rich" and that the addition of ammonia to such an environment does not contribute to the formation of additional particulate matter. (9/29/03 RT 61, 78-79.) Applicant also points out that the results of a recent CARB study show virtually no perceptible benefits in the San Joaquin Valley due to reducing ammonia slip to the 5 ppm level. (9/29/03 RT 65-67, 88.) In Applicant's view, a reduction in ammonia slip to 5 ppm is appropriate only where required by a District's BACT determination or by a clear need for air quality purposes; neither is applicable here. (9/29/03 RT 68.)

The weight of the evidence does not persuade us that it is appropriate to require a 5 ppm ammonia slip level in this case. While credible Staff testimony suggests that the additional ammonia emissions attributable to the 10 ppm level may lead to additional particulate formation, similarly credible evidence contradicts this proposition. More significant, however, are two other points. First, the testimony establishes that CARB's analysis of the matter failed to indicate that a reduction in ammonia levels would reduce particulate levels or noticeably benefit the San Joaquin Valley. The 5 ppm limit thus does not appear needed on this ground. Second, the 10 ppm limit constitutes BACT as determined by the Air District and otherwise complies with applicable rules.

We understand Staff's position that reducing ammonia slip--even where not legally required – constitutes a desirable goal. We do not, however, believe that it is

appropriate to require a 5 ppm level in this case, especially since such action would be inconsistent with conditions imposed in several recent cases. (Ex. 45, p. 9.)

We therefore do not include Condition **AQ-C6** proposed by Staff, but rather rely on the 10 ppm ammonia slip limit incorporated in Condition **AQ-31** as formulated by the District.

b. ERC Acceptability

Staff's proposed Condition of Certification **AQ-C8** identifies two ERC certificates and conditions their use as project offsets upon USEPA approval of Air District Rule 2201 or approval of an attainment plan. (Ex. 11, p. 4.1- 63.) This proposal is based on a letter from USEPA (Ex. 36) which can be interpreted as questioning the ERCs' validity.[11] In Staff's view, USEPA approval is necessary in order to establish conformity with federal law. (9/29/03 RT 102-104, 132, 143; Staff's Opening Brief, pp. 7-8; Reply Brief, pp. 5-6.) Applicant objects to Staff's proposed condition since it would require USEPA action at a future unspecified time, potentially delaying the project. (9/29/03 RT 71–74.) Applicant also points out that USEPA does not typically affirmatively approve ERCs, but rather simply fails to object to credits it deems acceptable. (9/29/03 RT 37, 40.)

The Committee requested that the parties attempt to resolve this matter (9/29/03 RT 148-149); the parties, however, were unable to agree (10/9/03 RT 3-4).

In our opinion, the proposed requirement that USEPA approve Rule 2201 or the District's attainment plan [12] is not a necessary prerequisite to treating the credits as

[11] The letter does not clearly state whether or not USEPA considers the ERCs to be valid. (9/29/03 RT 137-138.) Staff's interpretation is that: "I'm saying EPA does not consider them [the ERCs] to be valid, not that they consider them not to be valid." (9/29/03 RT 136: 17-19.)

[12] The Air District has a "verbal preliminary approval" of its attainment plan from USEPA. (9/29/03 RT 40: 1-9.)

presumptively valid. The two ERCs have been approved by the District and any USEPA concerns regarding their validity have not been directly stated, but rather must be inferred. Moreover, if USEPA did in fact assert that these ERCs were invalid, it would notify Applicant and advise against beginning project construction. (9/29/03 RT 76-77.) If negotiations regarding the validity of the credits failed, Applicant acknowledges that it could not use credits which USEPA had determined to be invalid, but rather would have to obtain suitable new credits.[13] (9/29/03 RT 77; Applicant's Reply Brief, p. 11.)

The important point is that only acceptable credits will be used to offset project emissions. Thus, the language for condition **AQ-C8** suggested by Applicant (Opening Brief, p. 16) appears largely appropriate. This language effectively presumes the two ERCs are valid unless USEPA decides they are not. We have modified it to directly clarify that the ERCs may not be used if USEPA determines them to be invalid, in violation of federal law, or otherwise unacceptable. This removes any uncertainty, and ensures that the credits will be used only if valid.

**FINDINGS AND CONCLUSIONS**

Based on the persuasive weight of the evidence of record, we find as follows:

1. The proposed Walnut Energy Center is located in the San Joaquin Valley Air Basin within the jurisdiction of the San Joaquin Valley Unified Air Pollution Control District.

2. The area is classified non-attainment for the state and federal ozone and $PM_{10}$ standards. For all other criteria pollutants, it is designated attainment, unclassified, or attainment/unclassified.

3. Construction and operation of the WEC will result in emissions of criteria pollutants.

[13] This would trigger returning to the Air District and the Commission for appropriate revisions or amendments to the FDOC and Commission Decision.

4. The project will employ the best available control technology (BACT) to control project emissions of criteria pollutants.

5. Potential impacts from power plant construction-related activities will be mitigated to insignificant levels with implementation of a Construction Mitigation Plan that specifies dust control and diesel particulate reduction measures.

6. The Air District issued a Final Determination of Compliance that finds the WEC will comply with all applicable District rules for project operation.

7. The SJVUAPCD has determined that an ammonia slip level of 10 ppm is appropriate for this project.

8. The evidence of record does not persuasively establish that an ammonia slip level of 10 ppm will lead to the formation of secondary particulates, or result in significant adverse impacts.

9. The evidence of record does not persuasively establish that a reduction in ammonia slip to 5 ppm from 10 ppm would create a perceptible benefit to the San Joaquin Valley.

10. Condition of Certification **AQ-C8** ensures that ERCs determined to be invalid by USEPA will not be used to offset project emissions.

11. The project's offset package complies with Public Resources Code, section 25523 (d)(2).

12. Implementation of the Conditions of Certification listed below ensures that the WEC will not result in any direct, indirect, or cumulative significant adverse impacts to air quality.

The Commission therefore concludes that the mitigation measures imposed are sufficient to ensure that the Walnut Energy Center will conform with all applicable laws, ordinances, regulations, and standards relating to air quality as set forth in the pertinent portion of **Appendix A** of this Decision.

## CONDITIONS OF CERTIFICATION

**AQ-C1** The project owner shall fund all expenses for an on-site air quality construction mitigation manager (AQCMM) who shall be responsible for maintaining compliance with conditions **AQ-C2** through **AQ-C4** for the entire project site and linear facility construction. The on-site AQCMM may delegate responsibilities identified in Conditions **AQ-C1** through **AQ-C4** to one or more air quality construction mitigation monitors. The on-site AQCMM shall have full access to areas of construction of the project site and linear facilities, and shall have the authority to appeal to the CPM to have the CPM stop any or all construction activities as warranted by applicable construction mitigation conditions. The on-site AQCMM, and any air quality construction mitigation monitors responsible for compliance with the requirements of **AQ-C4** and District Regulation VIII, shall have a current certification by the California Air Resources Board for Visible Emission Evaluation prior to the commencement of ground disturbance. The AQCMM may have responsibilities in addition to those described in this condition. The on-site AQCMM shall not be terminated without written consent of the CPM.

**Verification:** At least 60 days prior to the start of ground disturbance, the project owner shall submit to the CPM, for approval, the name, current ARB Visible Emission Evaluation certificate, and contact information for the on-site AQCMM and air quality construction mitigation monitors.

**AQ-C2** The project owner shall provide a construction mitigation plan (CMP), for approval, which shows the steps that will be taken and reporting requirements to ensure compliance with conditions **AQ-C3** and **AQ-C4**.

**Verification:** At least 60 days prior to the start of any ground disturbance, the project owner shall submit to the CPM, for approval, the construction mitigation plan. The CPM shall notify the project owner of any necessary modifications to the plan within 30 days from the date of receipt.

**AQ-C3** The on-site AQCMM shall submit to the CPM, in the monthly compliance report (MCR), a construction mitigation report that demonstrates compliance with the following mitigation measures:

a) All unpaved roads and disturbed areas in the project and linear construction sites shall be watered until sufficiently wet to meet the dust mitigation objectives of Condition **AQ-C4**. The AQCMM shall direct additional watering when visual dust plumes are observed. The frequency of watering may be reduced or eliminated during periods of precipitation.

b) No vehicle shall exceed 15 miles per hour within the construction site.

c) The construction site entrances shall be posted with visible speed limit signs.

d) All construction equipment vehicle tires shall be washed or cleaned free of dirt prior to entering paved roadways.

e) Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station.

f) All entrances to the construction site shall be graveled or treated with water or dust soil stabilization compounds.

g) No construction vehicles may enter the construction site unless through the treated entrance roadways.

h) Construction areas adjacent to any paved roadway shall be provided with sandbags to prevent run-off to the roadway.

i) All paved roads within the construction site shall be swept twice daily when construction activity occurs.

j) At least the first 500 feet of any public roadway exiting from the construction site shall be swept twice daily on days when construction activity occurs, and twice daily on any other day when dirt or runoff from the construction site is visible on the public roadways.

k) All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or be treated with appropriate dust suppressant compounds.

l) All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.

m) Wind erosion control techniques such as windbreaks, water, chemical dust suppressants, and vegetation shall be used on all construction areas that may be disturbed. Any windbreaks used shall remain in place until the soil is stabilized or permanently covered with vegetation.

n) Any construction activities that may cause fugitive dust in excess of the visible emission limits specified in Condition **AQ-C4** shall cease when the wind exceeds 25 miles per hour unless water, chemical dust suppressants, or other measures have been applied to reduce dust to the limits set forth in **AQC4**.

o) Diesel-fueled Engines

(1) All diesel-fueled engines used in the construction of the facility shall be fueled only with ultra-low sulfur diesel, which contains no more than 15 ppm sulfur.

(2) All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM that shows the engine meets the conditions set forth herein.

(3) All large construction diesel engines which have a rating of 50 hp or more shall meet, at a minimum, the Tier 1 ARB/EPA certified standards for off-road equipment unless certified by the on-site AQCMM that a certified engine is not available for a particular item of equipment. In the event a Tier 1 ARB/EPA certified engine is not available for any off-road engine larger than 50 hp, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless certified by engine manufacturers or the on-site AQCMM that the use of such soot filters is not practical for specific engine types. For the purposes of this condition, a Tier 1 diesel engine is "not available" or the use of such soot filters is "not practical" if the AQCMM in applying recognized industry practice certifies that:

- The Tier 1 diesel engine is not available. For purposes of this condition, "not available" means that a Tier 1 diesel engine certified by either CARB or EPA is: (i) not in existence at any location for use by the project owner at or near the time project construction commences; (ii) in existence but the construction equipment is intended to be on-site for 10 days or less; or (iii) not available for a particular piece of equipment.
- Despite the project owner's best efforts, use of the soot filter is not practical. For the purposes of this condition, "not practical" means any of the following: (i) the use of the soot filter is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance and/or reduced power output due to an excessive increase in backpressure; (ii) the soot filter is causing or is reasonably expected to cause significant engine damage; (iii) the soot filter is causing or is reasonably expected to cause a significant risk to workers or the public; (iv) the construction equipment is intended to be on-site for 10 days or less; or (v) other good cause approved by the CPM.

Any conflict between mitigation measures (a) through (n) and District Rules 8021 through 8081 will be identified in the CMP. In the event a conflict precludes compliance with both the CEC and District requirements, not including District exemption and applicability thresholds which reduce or eliminate fugitive dust control requirements, the provisions of District rules shall govern.

**Verification:** In the MCR, the project owner shall provide the CPM a copy of the construction mitigation report and all diesel fuel purchase records, including quantity purchased, which clearly demonstrates compliance with condition **AQ-C3**.

**AQ-C4** No construction activities are allowed to cause visible dust emissions at or beyond the project site fenced property boundary or the boundary of any adjacent property owned by the project owner. No construction activities are allowed to cause visible dust plumes that exceed 20 percent opacity at any location on the construction site. No construction activities

are allowed to cause any visible dust plume in excess of 200 feet beyond the centerline of the construction of linear facilities, or cause visible dust plumes to occur within 100 feet upwind of any occupied structures that are not under the control of the project owner.

**Verification:** The on-site AQCMM shall conduct a visible emission evaluation at the property boundary, or 200 feet from the center of construction activities at the linear facility, or adjacent to occupied structures, each time he/she sees excessive fugitive dust from the construction or linear facility site. The records of the visible emission evaluations shall be maintained at the construction site and shall be provided to the CPM in the monthly construction report.

**AQ-C5** The project owner shall submit to the CPM for review and approval any modification proposed by the project owner to any project air permit. The project owner shall submit to the CPM any modification to any permit proposed by the District or EPA, and any revised permit issued by the District or EPA for the project.

**Verification:** The project owner shall submit any proposed air permit modification to the CPM within 5 working days of its submittal either by: 1) the project owner to an agency; or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified air permits to the CPM within 15 days of receipt.

**AQ-C6 (Deleted)**

**AQ-C7** The project owner shall submit to the CPM and to the APCO Quarterly Compliance Reports, no later than 30 days following the end of each calendar quarter, that include operational and emissions information as necessary to demonstrate compliance with Conditions **AQ-1** through **AQ-111**. The Quarterly Operational Report will specifically note or highlight incidences of noncompliance.

**Verification:** The project owner shall submit the Quarterly Operational Reports to the CPM and to the APCO no later than 30 days following the end of each calendar quarter.

**AQ-C8** The project owner shall not use ERC certificate S-1834-2 or C-492-4 to offset project emissions if USEPA notifies the project owner or the District that the use of these certificates for the Walnut Energy Center would result in violation of federal regulations or statutes or are otherwise unacceptable or invalid. In such case, the project owner shall submit an application to the District and the Commission seeking approval for the substitution of alternative ERCs.

**Verification:** The project owner shall submit to the CPM, within 10 days receipt, any communication from USEPA or the District indicating that ERC certificate S-1834-2 or

C-492-4 may not be used for this project. In the event the use of these ERCs is disapproved by USEPA, within 90 days of receipt of notification of such disapproval the project owner shall file with the District and with the CPM applications to amend the District permit and Commission Decision, respectively, to substitute alternative ERCs.

## DISTRICT FINAL DETERMINATION OF COMPLIANCE CONDITIONS (SJVAPCD 2003C)

SJVAPCD Permit No. Unit N-2246-3-1: 84 MW Nominally Rated Combined-Cycle Power Generating System #1 Consisting Of A 1,047 MMBtu/Hr General Electric Frame 7EA Natural Gas-Fired Combustion Turbine Generator With Dry Low NOx Combustor, An Inlet Air Filtration And Evaporative Cooling System, A Selective Catalytic Reduction (SCR) System, An Oxidation Catalyst, Heat Recovery Steam Generator #1 (HRSG) And A 100 MW Nominally Rated Steam Turbine shared with N-2246-4.

SJVAPCD Permit No. Unit N-2246-4-1: 84 MW Nominally Rated Combined-Cycle Power Generating System #2 Consisting Of A 1,047 MMBtu/Hr General Electric Frame 7EA Natural Gas-Fired Combustion Turbine Generator With Dry Low NOx Combustor, An Inlet Air Filtration And Evaporative Cooling System, A Selective Catalytic Reduction (SCR) System, An Oxidation Catalyst, Heat Recovery Steam Generator #2 (HRSG) And A 100 MW Nominally Rated Steam Turbine Shared With N-2246-3.

**Conditions of Certification AQ-1 through AQ-78 apply per turbine/HRSG unit unless otherwise identified.**

**AQ-1** The project owner shall notify the District of the date of initiation of construction no later than 30 days after such date, the date of anticipated start-up not more than 60 days nor less than 30 days prior to such date, and the date of actual start-up within 15 days after such date. [District Rule 4001]

**Verification:** The project owner shall notify the CPM and the District of the date of initiation of construction no later than 30 days after such date, the date of anticipated start-up, defined here as first turbine fire, not more than 60 days or less than 30 days prior to such date, and the date of actual start-up within 15 days after such date.

**AQ-2** The heat recovery steam generator shall provide space for additional selective catalytic reduction catalyst and additional oxidation catalyst. The additional space shall be sufficient to house the quantity of catalyst material necessary to achieve and maintain compliance with the emission limits. [District Rule 2201]

**Verification:** The project owner shall submit SCR and oxidation catalyst design details that demonstrate compliance with this condition to the APCO and the CPM 30 days prior to commencement of construction.

**AQ-3** The gas turbine engine and generator lube oil vents shall be equipped with mist eliminators. Visible emissions from lube oil vents shall not exhibit opacity of 5% or greater except for up to 3 minutes in any hour. [District Rule 2201]

**Verification:** The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission to verify the installation and proper operation of the lube oil vent mist eliminators.

**AQ-4** Prior to the issuance of the Permit to Operate, the project owner shall submit to the District information correlating the NOx control system operating parameters to the associated measured NOx output. The information must be sufficient to allow the District to determine compliance with the NOx emission limits of this permit during times that the CEMS is not functioning properly. [District Rule 4703]

**Verification:** The project owner shall compile the required NOx control system and emissions data and submit the information to the CPM and the APCO in the Quarterly Operational Reports (**AQ-C7**).

**AQ-5** The gas turbine engine shall be fired exclusively on natural gas with a sulfur content of no greater than 0.36 grain of sulfur compounds (as S) per 100 dry scf of natural gas. [District Rule 2201]

**Verification:** The project owner shall submit to the CPM and to the APCO the fuel sulfur content data, as required to be compiled in Condition **AQ-6**, demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-6** Testing to demonstrate compliance with the fuel sulfur content limit of this permit shall be conducted weekly. Once eight consecutive weekly tests show compliance, the fuel sulfur content testing frequency may be reduced to once every calendar quarter. If a quarterly test shows a violation of the sulfur content limit of this permit, then weekly testing shall resume and continue until eight consecutive tests show compliance. Once compliance is shown on eight consecutive weekly tests, then testing may return to quarterly. [District Rule 2201]

**Verification:** The fuel sulfur content data shall be submitted to the CPM and the APCO in the Quarterly Operational Reports (**AQ-C7**).

**San Joaquin Valley Air Pollution Control District Conditions**

**AQ-7** The exhaust stack shall be equipped with a continuous emission monitor (CEM) for NOx, CO, and $O_2$. The CEM shall meet the requirements of 40 CFR parts 60 and 75 and shall be capable of monitoring emissions during start-ups and shutdowns as well as during normal operating conditions. [District Rules 2201 and 1080]

**Verification:** The project owner shall provide a Continuous Emission Monitoring System (CEMS) protocol for review by the CPM and for approval by the APCO at least 60 days prior to installation of the CEMS. In addition, the project owner shall provide to the CPM evidence of the District's approval of the emission monitoring system prior to first firing of the gas turbines. The project owner shall make the site available for inspection of the CEMS by representatives of the District, CARB, and the Commission.

**AQ-8** The project owner shall monitor and record the fuel flow rate to the turbine, NOx emission rate, the CO emission rate, the ammonia injection rate, the exhaust temperature both prior to and after the SCR unit, the exhaust oxygen content, and the exhaust flow rate. [District Rules 2201, 4001, and 4703]

**Verification:** The project owner shall make the site available for inspection of measuring equipment for fuel flow rate, NOx and CO emission rates, ammonia injection rate, exhaust gas temperature, and the associated records by representatives of the District, CARB, and the Commission.

**AQ-9** The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080]

**Verification:** The project owner shall provide a Continuous Emission Monitoring System (CEMS) protocol for review by the CPM and for approval by the APCO at least 60 days prior to installation of the CEMS. In addition, the project owner shall provide to the CPM evidence of the District's approval of the emission monitoring system prior to first firing of the gas turbines, and the Quarterly Operational Reports shall note any periods when the CEM data polling system was inoperative. The project owner shall make the site available for inspection of the CEMS by representatives of the District, CARB, and the Commission.

**AQ-10** Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080]

**Verification:** The project owner shall provide required non-polled CEM data to the District by a District-approved alternative method.

**AQ-11** The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NOx, CO, and $O_2$ analyzer during District inspections. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]

**Verification:** Prior to construction of the turbine stacks the project owner shall provide to the CPM for approval detailed plan drawings of the turbine stacks that show the sampling ports and demonstrate compliance with the requirements of this condition. The project owner shall make the site available for inspection of the turbine stacks by representatives of the District, CARB, and the Commission.

**AQ-12** Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080]

**Verification:** The project owner shall provide a Continuous Emission Monitoring System (CEMS) protocol for review by the CPM and for approval by the APCO at least 60 days prior to installation of the CEMS. In addition, the project owner shall provide to the CPM evidence of the District's approval of the emission monitoring system prior to first firing of the gas turbines.

**AQ-13** In accordance with 40 CFR, Part 60, Appendix F, 5.1, cylinder gas audits (CGA) or relative accuracy audits (RAA) of continuous emission monitors shall be conducted quarterly, except during quarters in which a relative accuracy test audit (RATA) is performed. The District shall be notified prior to completion of the audits. Audit reports shall be submitted along with quarterly compliance reports to the District. [District Rule 1080]

**Verification:** The project owner shall submit to the CPM and to the APCO the CEMS audits demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-14** The owner/operator shall perform relative accuracy test audit (RATA) as specified by 40 CFR Part 60, Appendix F, 5.11, at least once every four calendar quarters. The project owner shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080]

**Verification:** The project owner shall submit to the CPM and to the APCO the CEMS audits demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-15** The project owner shall submit a written report to the APCO for each calendar quarter, within 30 days of the end of the quarter. These reports shall include: time intervals, data and magnitude of excess emissions, nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting shall correspond to the averaging period for each respective emission standard; applicable time and date of each period during which the CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080]

**Verification:** The project owner shall submit to the CPM and to the APCO the excess emissions and other data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-16** Start-up is defined as the period beginning with turbine initial firing until the unit meets the ppmvd emission limits for steady state operation. Shutdown is defined as the period beginning with initiation of turbine shutdown sequence and ending with cessation of firing of the gas turbine engine. Start-up and shutdown durations shall not exceed 296 hours per calendar year. Start-up emissions must be counted toward each applicable emission limit (lb/day and lb/yr). [District Rule 2201]

**Verification:** The project owner shall submit to the CPM and to the APCO the turbine start-up and shutdown event duration data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-17** The cumulative start-up and shutdown period duration shall not exceed 5 hours in any one day, commencing at midnight. Emissions during start-up and shutdown periods must be must be counted toward the applicable daily emission limitations. [District Rule 2201]

**Verification:** The project owner shall submit to the CPM and to the APCO the turbine start-up and shutdown event duration data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-18** The NOx emissions during start-up and shutdown periods shall not exceed 119.0 lb/hour. [District Rule 2201]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-19** The NOx emissions concentration during steady state operation shall not exceed 2.0 ppmvd @ 15% $O_2$ over a 1-hour average (clock-hour basis).

Steady-state period refers to any period that is not a start-up or shutdown period. A clock hour in a one-hour average will commence at the top of the hour. [District Rule 2201]

**Verification:** The project owner shall submit to the CPM and to the APCO turbine emissions data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-20** The combined total NOx emissions from start-up, shutdown, and steady state operation shall not exceed 444.2 lb/day. [District Rule 2201]

**Verification:** The project owner shall submit to the CPM and to the APCO turbine emissions data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-21** Compliance with NOx emission limitations during steady state operation shall not be required during short-term excursions limited to a cumulative total of 10 hours per rolling 12-month period. Short-term excursions are defined as 15-minute periods designated by the owner/operator (and approved by the APCO) that are the direct result of transient load conditions, not to exceed four consecutive 15-minute periods, when the 15-minute average NOx concentration exceeds 2.0 ppmvd @ 15% $O_2$. The maximum 1-hour average NOx concentration for periods that include short-term excursions shall not exceed 30 ppmvd @ 15% $O_2$. [District Rule 2201]

**Verification:** The project owner shall submit to the CPM and to the APCO turbine emissions data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-22** Examples of transient load conditions include, but are not limited to, the following: (1) Initiation/shutdown of combustion turbine inlet air cooling; and (2) rapid combustion turbine load changes. All emissions during short-term excursions shall accrue towards the hourly, daily, and annual emissions limitations of this permit and shall be included in all calculations of hourly, daily, and annual mass emission rates as required by this permit. [District Rule 2201]

**Verification:** The project owner shall submit to the CPM and to the APCO turbine emissions data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-23** The CO emissions during start-up and shutdown periods shall not exceed 129.0 lb/hour. [District Rule 2201]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-24** The CO emissions concentration during steady state operation shall not exceed 4.0 ppmvd @ 15% $O_2$ over a 3-hour rolling average. Steady-state period refers to any periods that is not a start-up or shutdown period. [District Rule 2201]

**Verification:** The project owner shall submit to the CPM and to the APCO turbine emissions data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-25** The combined total CO emissions form start-up, shutdown, and steady state operation shall not exceed 558.8 lb/day. [District Rule 2201]

**Verification:** The project owner shall submit to the CPM and to the APCO turbine emissions data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-26** The VOC emissions during start-up and shutdown periods shall not exceed 16.0 lb/hour. [District Rule 2201]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-27** The VOC emissions concentration during steady state operation shall not exceed 1.4 ppmvd @ 15% $O_2$ over a 3-hour rolling average. Steady-state period refers to any period that is not a start-up or shutdown period. [District Rule 2201]

**Verification:** The project owner shall submit to the CPM and to the APCO turbine emissions data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-28** The combined total VOC emissions form start-up, shutdown, and steady state operation shall not exceed 83.0 lb/day. [District Rule 2201]

**Verification:** The project owner shall submit to the CPM and to the APCO turbine emissions data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-29** The PM10 emissions rate shall not exceed 7.0 lb/hr and 168.0 lb/day. [District Rule 2201]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-30** The SOx emission rate shall not exceed 1.05 lb/hr and 25.2 lb/day. [District Rule 2201]

**Verification:** The project owner shall submit to the CPM and to the APCO turbine emissions data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-31** Ammonia (NH3) emissions concentration shall not exceed 10 ppmvd @ 15% $O_2$ over a 24-hour rolling average. [District Rule 2201]

**Verification:** The project owner shall submit to the CPM and to the APCO turbine emissions data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-32** Compliance with ammonia emission limit shall be demonstrated utilizing one of the following procedures: 1) Calculate the daily ammonia emissions using the following equation: (ppmvd @ 15% $O_2$) = ((a – (b x c/1,000,000)) x (1,000,000 / b)) x d, where a = ammonia injection rate (lb/hr) / (17 lb/lb mol), b = dry exhaust flow rate (lb/hr) / (29 lb/lb mol), c = change in measured NOx concentration ppmvd @ 15% $O_2$ across the catalyst, and d = correction factor; the correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip: 2) Utilize another District-approved calculation method using measured surrogate parameters to determine the daily ammonia emissions in ppmvd @ 15% $O_2$. If this option is chosen, the project owner shall submit a detailed calculation protocol for District approval at least 60 days prior to commencement of operation. 3) Alternatively, the project owner may utilize a continuous in-stack ammonia monitor to verify compliance with the ammonia emissions limit. If this option is chosen, the project owner shall submit a monitoring plan for District approval at least 60 days prior to commencement of operation. [District Rule 4102]

**Verification:** The project owner shall submit to the CPM and to the APCO ammonia data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**). Additionally, if a District-approved calculation method using surrogate parameters to determine the daily ammonia emissions is used, the project owner shall submit for review by the CPM and for approval by the APCO a detailed calculation protocol at least 60 days prior to initial start-up. If a continuous in-stack ammonia monitor is used, the project owner shall submit for review by the CPM and for approval by the APCO an ammonia monitoring plan at least 60 days prior to initial start-up. In addition, the project owner shall provide to the CPM evidence of the District's approval of the ammonia emission compliance demonstration methodology prior to first firing of the gas turbines.

**AQ-33** The cumulative annual emissions shall not exceed 99,991 lb/year for CO and 17,404 lb/year for VOC. [District Rule 2201]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-34** The cumulative quarterly NOx emissions from permit units N-2246-3 and N-2246-4 shall not exceed 35,000 lb/quarter. [District Rule 2201]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-35** The cumulative annual NOx emissions from permit units N-2246-3 and N-2246-4 shall not exceed 140,000 lb/year. [District Rule 2201]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-36** Each one-hour period shall commence on the hour. Each one-hour period in a 3-hour rolling average will commence on the hour. The 3-hour average will be compiled from the three most recent one-hour periods. Each one-hour period in a 24-hour average for ammonia slip will commence on the hour. The 24-hour average will be calculated starting and ending at 12:00 midnight. [District Rule 2201]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-37** Daily emissions will be compiled for a 24-hour period starting and ending at 12:00 midnight. Each calendar month in a 12 consecutive month rolling emissions total will commence at the beginning of the first day of the month. The 12 consecutive month rolling emissions total to determine compliance with annual emissions limits will be compiled from the 12 most recent calendar months. [District Rule 2201]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-38** Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

**Verification:** The project owner shall notify the CPM and the District 30 days prior to any compliance source test. The project owner shall provide a source test plan to the CPM for review and to the District for approval 15 days prior to testing. In addition, the project owner shall provide to the CPM evidence of the District's approval of the source test plan prior to conducting the source test.

**AQ-39** Source testing shall be witnessed or authorized by District personnel. [District Rule 1081]

**Verification:** The project owner shall notify the CPM and the District 30 days prior to any compliance source test.

**AQ-40** The results of each source test shall be received by the District no later than 60 days after the source test date. [District Rule 1081]

**Verification:** Results and field data collected during source tests shall be submitted to the CPM and the District within 60 days of testing.

**AQ-41** Source testing to measure start-up NOx, CO, and VOC mass emission rates shall be conducted for one of the gas turbines (N-2246-3 or N-2246-4) prior to the end of the commissioning period and at least once every 7 years thereafter. CEM relative accuracy shall be determined during start-up source testing in accordance with 40 CFR Part 60, Appendix B. If CEM data is not certified to determine compliance with NOx and CO start-up emission limits, then source testing to measure start-up NOx and CO mass emission rates shall be conducted at least once every 12 months. [District Rules 2201 and 4001]

**Verification:** The results and field data collected during source tests shall be submitted to the CPM and the District within 60 days of testing.

**AQ-42** Source testing to demonstrate compliance with the NOx (ppmvd), CO (ppmvd), VOC (ppmvd), PM10 (lb/hr), and NH3 (ppmvd) emission limits and fuel gas sulfur content requirements shall be conducted within 120 days of initial operation. Source testing to demonstrate compliance with the NOx (ppmvd), CO (ppmvd), VOC (ppmvd), PM10 (lb/hr), and NH3 (ppmvd) emission limits shall be conducted at least once every 12 months thereafter. [District Rules 2201 and 4001]

**Verification:** The results and field data collected during source tests shall be submitted to the CPM and the District within 60 days of testing.

**AQ-43** Source testing to determine the percent efficiency of the turbine shall be conducted annually. [District Rule 4703]

**Verification:** The results and field data collected during source tests shall be submitted to the CPM and the District within 60 days of testing.

**AQ-44** NOx emissions (referenced as $NO_2$) shall be determined using EPA method 7E, EPA method 20, or CARB Method 20. The test results shall be corrected to ISO standard conditions as defined in 40 CFR Part 60 Subpart GG Section 60.335. [District Rules 1081, 2201, 4001, and 4703]

**Verification:** The project owner shall provide a source test plan demonstrating compliance with this condition to the CPM for review and to the APCO for approval 15 days prior to testing. In addition, the project owner shall provide to the CPM evidence of the District's approval of the source test plan prior to conducting the source test.

**AQ-45** VOC emissions (referenced as methane) shall be determined using EPA method 18 or EPA method 25. [District Rules 1081 and 2201]

**Verification:** The project owner shall provide a source test plan demonstrating compliance with this condition to the CPM for review and to the APCO for approval 15 days prior to testing. In addition, the project owner shall provide to the CPM evidence of the District's approval of the source test plan prior to conducting the source test.

**AQ-46** CO emissions shall be determined using EPA method 10 or EPA method 10B. [District Rules 1081, 2201, and 4703]

**Verification:** The project owner shall provide a source test plan demonstrating compliance with this condition to the CPM for review and to the APCO for approval 15 days prior to testing. In addition, the project owner shall provide to the CPM evidence of the District's approval of the source test plan prior to conducting the source test.

**AQ-47** Source testing to measure concentrations of PM10 shall be conducted using EPA methods 201 and 202, or EPA methods 201A and 202, or CARB method 501 in conjunction with CARB method 5. [District Rules 1081 and 2201]

**Verification:** The project owner shall provide a source test plan demonstrating compliance with this condition to the CPM for review and to the APCO for approval 15 days prior to testing. Front-half (non-condensable) and back-half (condensable) particulate shall be measured and reported. In addition, the project owner shall provide to the CPM evidence of the District's approval of the source test plan prior to conducting the source test.

**AQ-48** Ammonia (NH3) emissions shall be determined using BAAQMD Method ST-1B. [District Rules 1081 and 4102]

**Verification:** The project owner shall provide a source test plan demonstrating compliance with this condition to the CPM for review and to the APCO for approval 15 days prior to testing. In addition, the project owner shall provide to the CPM evidence of the District's approval of the source test plan prior to conducting the source test.

**AQ-49** Oxygen content of the exhaust gas shall be determined using EPA method 3, EPA method 3A, or EPA method 20. [District Rules 1081, 2201, and 4703]

**Verification:** The project owner shall provide a source test plan demonstrating compliance with this condition to the CPM for review and to the APCO for approval 15 days prior to testing. In addition, the project owner shall provide to the CPM evidence of the District's approval of the source test plan prior to conducting the source test.

**AQ-50** If necessary, testing for fuel sulfur content shall be conducted utilizing ASTM Method D 3246, ASTM Method D1072-90, ASTM Method D4468-85, ASTM Method D5504-94, or ASTM Method D3246-81. [District Rules 1081 and 4001]

**Verification:** The project owner shall provide a source test plan demonstrating compliance with this condition to the CPM for review and to the APCO for approval 15 days prior to testing. In addition, the project owner shall provide to the CPM evidence of the District's approval of the source test plan prior to conducting the source test.

**AQ-51** Source testing to determine the percent efficiency of the turbine shall be conducted utilizing the procedures in District Rule 4703 (Stationary Gas Turbines). [District Rule 4703]

**Verification:** The project owner shall provide a source test plan demonstrating compliance with this condition to the CPM for review and to the APCO for approval 15 days prior to testing. In addition, the project owner shall provide to the CPM evidence of the District's approval of the source test plan prior to conducting the source test.

**AQ-52** The project owner shall maintain the following records: the date, time, and duration of any malfunction of the continuous monitoring equipment; dates of performance testing; dates of evaluations, calibrations, checks, and adjustments of the continuous monitoring equipment; date and time period which a continuous monitoring system or monitoring device was inoperative. [District Rules 2201 and 4703]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, CARB, and the Commission.

**AQ-53** The project owner shall maintain a daily record that includes the actual turbine start-up and stop times (local time), total hours of operation, and the quantity and type of fuel used. [District Rule 4703]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, CARB, and the Commission.

**AQ-54** The project owner shall retain records of the cumulative annual NOx, CO, and VOC emissions. The record shall be updated monthly. [District Rule 2201]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, CARB, and the Commission.

**AQ-55** The project owner shall maintain hourly records of NOx, CO, and ammonia concentrations (ppmv @ 15% $O_2$). [District Rules 2201 and 4201]

**Verification:** The project owner shall make the site available for inspection of records by representatives of the District, CARB, and the Commission.

**AQ-56** The project owner shall submit a written report for each calendar quarter to the APCO. The report shall be received by the District within 30 days of the end of the quarter and shall include: time intervals and the magnitude of excess emissions, the nature and cause of excess emissions (if known), corrective actions taken and preventive measures adopted; averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard for the pollutant/source category in question; time and date of each period during which a continuous monitoring system was inoperative except for zero and span checks and the nature of system repairs and adjustments; a negative declaration when no excess emissions occurred. [District Rule 1080]

**Verification:** The project owner shall submit to the CPM and to the APCO the excess emissions and other data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-57** The project owner shall provide notification and record keeping as required under 40 CFR, Part 60, Subpart A, 60.7. [District Rule 4001]

**Verification:** The project owner shall comply with the notification and record keeping requirements specified under 40 CFR, Part 60, Subpart A, 60.7. The project owner shall make records available for inspection by representatives of the District, CARB, and the Commission upon request.

**AQ-58** The project owner shall submit a semiannual report to the APCO listing any daily period during which the sulfur content of the fuel being fired in the gas turbine exceeded 0.8% by weight. [District Rule 4001]

**Verification:** The project owner shall submit to the CPM and to the APCO the sulfur content data as necessary to comply with this condition as part of every other Quarterly Operational Report (**AQ-C7**).

**AQ-59** All records required to be maintained by this permit shall be maintained for a period of 5 years and shall be made readily available for District inspection upon request. [District Rule 2201]

**Verification:** The project owner shall make records available for inspection by representatives of the District, CARB, and the Commission upon request.

**AQ-60** The project owner shall submit an application to comply with Rule 2540 (Acid Rain Program) at least 24 months prior to the date that the unit commences operation. [District Rule 2540]

**Verification:** The project owner shall submit to the CPM copies of the Title IV permit at least 15 days prior to the initial firing of the turbine(s), and shall submit proof that necessary Title IV $SO_2$ emission allotments have been acquired as necessary for compliance with Title IV requirements annually in the first Quarterly Compliance Report (**AQ-C7**) that is due after the annual $SO_2$ allotment due date.

**AQ-61** Project owner shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100]

**Verification:** The project owner shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM and the APCO as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-62** The District shall be notified in writing within 10 days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100]

**Verification:** The project owner shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-63** The owner/operator shall minimize the emissions from the gas turbine and heat recovery steam generator to the maximum extent possible during the commissioning period. Conditions **AQ-63** through **AQ-75** shall apply only during the commissioning period as defined below. [District Rule 2201]

**Verification:** The project owner shall provide in the monthly commissioning status report (see the Verification for condition **AQ-69**) information regarding the types and effectiveness of methods used to minimize commissioning period emissions.

**AQ-64** Commissioning activities are defined as, but not limited to, all testing, adjustment, tuning, and calibration activities recommended by the equipment manufacturers and the construction contractor to ensure safe and reliable steady state operation of the gas turbines, heat recovery steam generators, steam turbine, and associated electrical delivery systems. [District Rule 2201]

**Verification:** The project owner shall provide written notification to the APCO and the CPM of the expected date of first turbine roll at least 15 days before the first turbine roll.

**AQ-65** The commissioning period shall commence when all mechanical, electrical, and control systems are installed and individual system start-up has been completed, or when a gas turbine is first fired, whichever occurs first. The commissioning period shall terminate when the plant has completed initial performance testing and is available for commercial operation. [District Rule 2201]

**Verification:** The project owner shall provide written notification to the APCO and the CPM of the expected date of first turbine roll at least 15 days before the first turbine roll. The project owner shall provide written notification to the APCO within 5 days after the turbines are available for commercial operation.

**AQ-66** At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the combustors of this unit shall be tuned to minimize emissions. [District Rule 2201]

**Verification:** The project owner shall provide combustor tuning information to demonstrate compliance with this condition, and that information shall be submitted to the CPM as part of the monthly commissioning status report noted in the Verification of condition **AQ-69**.

**AQ-67** At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the Selective Catalytic Reduction (SCR) system and the oxidation catalyst shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]

**Verification:** The project owner shall provide emission abatement system information (such as dates of catalyst installation and ammonia grid initial operation) to demonstrate compliance with this condition, and that information shall be submitted to the CPM as part of the monthly commissioning status report noted in the Verification of condition **AQ-69**.

**AQ-68** Coincident with the steady-state operation of the SCR system and the oxidation catalyst, NOx and CO emissions from this unit shall comply with the limits specified in conditions **AQ-19** and **AQ-24**, respectively. [District Rule 2201]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition, and that data shall be submitted to the CPM as part of the monthly commissioning status report noted in the Verification of condition **AQ-69**.

**AQ-69** The owner/operator shall submit a plan to the District at least 4 weeks prior to the first firing of this unit describing the procedures to be followed during the commissioning period. The plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but not be limited to, the following: tuning of the combustors, installation and operation of the SCR systems and the oxidation catalyst, installation, calibration, and testing of the NOx and CO continuous emissions monitors, and any activities requiring the firing of this unit without full abatement by the SCR system or oxidation catalyst. [District Rule 2201]

**Verification:** The project owner shall submit a single commissioning plan to the District and the CPM at least 4 weeks prior to the first firing of any combustion turbine describing in detail the procedures to be followed for each turbine. The project owner shall submit, commencing one month from the time of gas turbine first fire, a monthly commissioning status report throughout the duration of the commissioning phase that demonstrates compliance with the commissioning plan and demonstrates compliance with all other substantive requirements listed in Conditions **AQ-63** through **AQ-75**. The monthly commissioning status report shall be submitted to the CPM monthly, within 10 days of the numeric calendar day of turbine first fire date.

**AQ-70** The emission rates during the commissioning period shall not exceed any of the following: NOx (as $NO_2$) – 108.8 lb/hr; CO – 180.0 lb/hr; VOC (as methane) – 17.0 lb/hr; SOx – 0.94 lb/hr; and PM10 – 7.0 lb/hr. [District Rule 2201]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition, and that data shall be submitted to the CEC CPM as part of the monthly commissioning status report noted in the Verification of condition **AQ-69**.

**AQ-71** Only one of the turbines under permits N-2246-3 and N-2246-4 shall be operated at any one time without abatement and only during commissioning. Combined emission rates from permit units N-2246-3 and N-2246-4, during the commissioning period, shall not exceed any of the following limits: NOx (as $NO_2$) – 227.8 lb/hr or 3,055.4 lb/day; CO – 309.0 lb/hr or 4,878.8 lb/day; VOC (as methane) – 33.0 lb/hr or 491 lb/day; SOx – 336.0 lb/day; PM10 – 47.8 lb/day. [District Rule 2201]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition, and that data shall be submitted to the CPM as part of the monthly commissioning status report noted in the Verification of condition **AQ-69**.

**AQ-72** During the commissioning period, the project owner shall demonstrate compliance with conditions **AQ-70** and **AQ-71** through the use of properly operated and maintained continuous emissions monitors and recorders as specified in these permit conditions. The monitored parameters for this unit shall be recorded at least once every 15 minutes (excluding normal calibration periods or when the source is not in operation). [District Rule 2201]

**Verification:** The project owner shall provide CEM data to demonstrate compliance with conditions **AQ-70** and **AQ-71**, and that data shall be submitted to the CPM as part of the monthly commissioning phase status report noted in the Verification of condition **AQ-69**.

**AQ-73** The continuous emissions monitors specified in these permit conditions shall be installed, calibrated, and operational prior to the first firing of the unit. After first firing, the detection range of the CEMS shall be adjusted as necessary to accurately measure the resulting range of NOx and CO emissions concentrations. [District Rule 2201]

**Verification:** The project owner shall provide notification to the District and the CPM of the anticipated dates for installation, calibration, and testing for the CEMS at least 10 days prior to installation. The project owner shall provide a report to the District for approval and to the CPM for review demonstrating compliance with CEMS calibration requirements prior to turbine first fire. The project owner shall provide ongoing calibration data in the monthly commissioning status reports (see Verification of Condition **AQ-69**).

**AQ-74** The total number of firing hours of this unit without abatement of emissions by the SCR system and the oxidation catalyst shall not exceed 288 hours during the commissioning period. Such operation of this unit without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system and the oxidation catalyst in place. Upon completion of these activities, the project owner shall provide written notice to the District and the unused balance of the 288 firing hours without abatement shall expire. [District Rule 2201]

**Verification:** The project owner shall provide to the District and the CPM a reporting of the unused balance of the 288 firing hours without abatement for each turbine in the monthly commissioning status reports (see Verification of condition **AQ-69**).

**AQ-75** The total mass emissions of NOx, CO, and VOC that are emitted during the commissioning period shall accrue towards the annual emission limits specified in conditions **AQ-33, AQ-35** and **AQ-77**. [District Rule 2201]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-76** The cumulative quarterly CO emissions from permit units N-2246-3 and N-2246-4 shall not exceed 49,996 lb/quarter. [District Rule 2201]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-77** The cumulative annual CO emissions from permit units N-2246-3 and N-2246-4 shall not exceed 199,982 lb/year. [District Rule 2201]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-78** EPA approved alternative source testing methods will be allowed, upon District approval, provided it does not result in a relaxation of emission limitations. The request to use EPA-approved alternative source testing methods must be submitted in writing and written approval received from the District prior to the submission of the source test plan. [District Rules 1081 and 4001]

**Verification:** The project owner shall provide emissions data to demonstrate compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**SJVACPD Permit No. UNIT N-2246-5-0: 68,500 GPM MECHANICAL DRAFT COOLING TOWER WITH 5 CELLS SERVED BY HIGH EFFICIENCY DRIFT ELIMINATOR.**

**Conditions of Certification AQ-79 through AQ-83 apply to the cooling tower.**

**AQ-79** No hexavalent chromium containing compounds shall be added to cooling tower circulating water. [District Rule 7012]

**Verification:** The project owner shall provide the list of cooling tower water additives (i.e., biocides, fungicides, anti-scaling compounds, etc.) demonstrating compliance with this condition to the CPM at least 30 days prior to operation of the cooling tower and shall provide any revisions to the cooling tower water additives list to the CPM demonstrating compliance with this condition prior to using the new water additive.

**AQ-80** Drift eliminator drift rate shall not exceed 0.0005%. [District Rule 2201]

**Verification:** The project owner shall provide copies of cooling tower and drift eliminator design details to the CPM and the District demonstrating compliance with

this condition at least 30 days prior to construction of permanent foundations for the cooling tower.

**AQ-81** The PM10 emissions shall not exceed 30.8 lb/day. [District Rule 2201]

**Verification:** The project owner shall submit to the CPM and to the APCO the cooling tower emission data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-82** Compliance with the PM10 emission limit shall demonstrated as follows: PM10 lb/day = Circulating Water Recirculation rate (gal/day) x 8.34 lb/gal x Total Dissolved Solids Concentration in the blowdown water (ppm) x Design Drift Rate (%). [District Rule 2201]

**Verification:** The project owner shall submit to the CPM and to the APCO the cooling tower emission data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-83** Compliance with PM10 emission limit shall be determined by blowdown water sample analysis by an independent laboratory within 120 days of initial operation and quarterly thereafter. [District Rule 1081]

**Verification:** The results and field data collected from cooling tower blowdown water samples analysis shall be submitted to the CPM and the District as part of the Quarterly Operational Report (**AQ-C7**).

**SJVACPD Permit No. UNIT N-2246-6-0: 300 HP JOHN DEERE COMPANY MODEL JW6H-UF40 DIESEL-FIRED EMERGENCY IC ENGINE POWERING A FIRE PUMP.**

**Conditions of Certification AQ-84 through AQ-91 apply to the emergency fire pump engine.**

**AQ-84** The exhaust stack shall not be fitted with a rain cap, or any other similar device, that impedes upward vertical exhaust flow. [District Rule 4102]

**Verification:** The project owner shall make the site available for inspection of the fire pump engine by representatives of the District, CARB, and the Commission.

**AQ-85** The NOx emissions from the engine shall not exceed 5.2 grams/hp-hr. [District Rule 2201]

**Verification:** The project owner shall provide to the CPM and to the APCO, 30 days prior to installation of the fire pump engine, manufacturer emissions guarantee data demonstrating compliance with this condition.

**AQ-86** The CO emissions from the engine shall not exceed 0.27 grams/hp-hr. [District Rule 2201]

**Verification:** The project owner shall provide to the CPM and to the APCO, 30 days prior to installation of the fire pump engine, manufacturer emissions guarantee data demonstrating compliance with this condition.

**AQ-87** The VOC emissions from the engine shall not exceed 0.15 grams/hp-hr. [District Rule 2201]

**Verification:** The project owner shall provide to the CPM and to the APCO, 30 days prior to installation of the fire pump engine, manufacturer emissions guarantee data demonstrating compliance with this condition.

**AQ-88** The PM10 emissions from the engine shall not exceed 0.09 g/hp-hr based on U.S. EPA certification testing using test procedure ISO 8178. [District Rule 2201]

**Verification:** The project owner shall provide to the CPM and to the APCO, 30 days prior to installation of the fire pump engine, manufacturer emissions guarantee data demonstrating compliance with this condition.

**AQ-89** Only CARB certified fuel containing not more than 0.05% sulfur by weight is to be used in this engine. [District Rule 2201]

**Verification:** The project owner shall make fuel purchase, MSDS, or other fuel supplier records containing diesel fuel sulfur content available for inspection by representatives of the District, CARB, and the Commission upon request.

**AQ-90** The engine shall be operated only for maintenance, testing, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 100 hours per year. [District Rules 2201 and 4102]

**Verification:** The project owner shall submit to the CPM and to the APCO the fire pump engine operations data demonstrating compliance with this condition as part of the Quarterly Operational Report (**AQ-C7**).

**AQ-91** The project owner shall maintain records of hours of emergency and non-emergency operation. Records shall include the date, the number of hours of operation, the purpose of the operation (e.g., load testing, weekly testing, rolling blackout, general area power outage, etc.), and the sulfur content of the diesel fuel used. Such records shall be made available for District inspection upon request for a period of 5 years. [District Rule 1070]

**Verification:** The project owner shall make the fire pump engine operating records available for inspection by representatives of the District, CARB, and the Commission upon request.

**Conditions of Certification AQ-92 through AQ-111 are SJVACPD General Facility Permit Conditions**

**AQ-92** The permitee shall not begin actual on-site construction of the equipment authorized by this Authority to Construct until the lead agency satisfies the requirements of the California Environmental Quality Act (CEQA).

**Verification:** The project owner shall keep proof of the project's District air permit and CEC certification, including copies of all permit conditions and Conditions of Certification, on-site starting at the commencement of construction through the final decommissioning of the project. The project owner shall make the District's permit conditions and Conditions of Certification available at the project site to representatives of the District, CARB, and the Energy Commission for inspection.

**AQ-93** All equipment shall be maintained in proper operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District NSR Rule]

**Verification:** The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

**AQ-94** No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

**Verification:** The project owner will document any complaints that it has received from the public in the Quarterly Operational Report (**AQ-C7**). The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

**AQ-95** Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

**Verification:** The project owner shall submit the results of the initial and annual source tests per Condition **AQ-41**.

**AQ-96** No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than 3 minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20% opacity. [District Rule 4101]

**Verification:** The project owner shall document any known opacity violations in the Quarterly Operational Report (**AQ-C7**). The project owner shall make the site available for inspection by representatives of the District, CARB, and the Commission.

**AQ-97** Prior to operating equipment under this Authority to Construct, the project owner shall surrender NOx emission reduction credits for the following quantities of emissions: 1st quarter – 35,000 lb; 2nd quarter – 35,000 lb; 3rd quarter – 35,000 lb; and 4th quarter – 35,000 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/25/02). [District Rule 2201]

**Verification:** At least 60 days prior to commencing turbine first fire, the project owner shall surrender ERC certificates in the amounts shown to the District and provide documentation of that surrender to the CPM.

**AQ-98** ERC Certificate Numbers C-482-2 and S-1834-2 shall be used to supply the required NOx offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

**Verification:** At least 60 days prior to commencing turbine first fire, the project owner shall surrender the identified ERC certificates and in the amounts shown in **AQ-97** to the District and provide documentation of that surrender to the CPM. Changes to the offsetting proposal must be provided to the District and CPM for review, public noticing, and approval.

**AQ-99** Prior to operating equipment under this Authority to Construct, the project owner shall surrender VOC emission reduction credits for the following quantities of emissions: 1st quarter – 8,702 lb; 2nd quarter – 8,702 lb; 3rd quarter – 8,702 lb; and fourth quarter – 8,702 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/25/02). [District Rule 2201]

**Verification:** At least 60 days prior to commencing turbine first fire, the project owner shall surrender ERC certificates in the amounts shown to the District and provide documentation of that surrender to the CPM.

**AQ-100** ERC Certificate Number C-484-1 shall be used to supply the required VOC offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

**Verification:** At least 60 days prior to commencing turbine first fire, the project owner shall surrender the identified ERC certificates and in the amounts shown in **AQ-99** to the District and provide documentation of that surrender to the CPM. Changes to the

offsetting proposal must be provided to the District and CPM for review, public noticing, and approval.

**AQ-101** Prior to operating equipment under this Authority to Construct, the project owner shall surrender PM10 emission reduction credits for the following quantities of emissions: 1st quarter – 28,213 lb; 2nd quarter – 28,213 lb; 3rd quarter – 28,213 lb; and 4th quarter – 28,213 lb. Offsets shall be provided at the applicable offset ratio specified in Table 4-2 of Rule 2201 (as amended 4/25/02). [District Rule 2201]

**Verification:** At least 60 days prior to commencing turbine first fire, the project owner shall surrender ERC certificates in the amounts shown to the District and provide documentation of that surrender to the CPM.

**AQ-102** ERC Certificate Numbers C-486-4 C-488-4, C-491-4, C-492-4, C-494-4, C-495-4, N-333-4. N-334-4, N-335-4, and N-336-4 shall be used to supply the required PM10 offsets, unless a revised offsetting proposal is received and approved by the District, upon which this Authority to Construct shall be reissued, administratively specifying the new offsetting proposal. Original public noticing requirements, if any, shall be duplicated prior to reissuance of this Authority to Construct. [District Rule 2201]

**Verification:** At least 60 days prior to commencing turbine first fire, the project owner shall surrender the identified ERC certificates and in the amounts shown in **AQ-101** to the District and provide documentation of that surrender to the CPM. Changes to the offsetting proposal must be provided to the District and CPM for review, public noticing, and approval.

**AQ-103** Project owner shall submit an application to comply with Rule 2520 - Federally Mandated Operating Permits within 12 months of commencing operation. [District Rule 2520]

**Verification:** The project owner shall submit a copy of its Title V – Federal Mandated Operating Permit Application to the CPM within 12 months of commencing operation.

**AQ-104** Authority to Construct permits N-2246-3-1, N-2246-4-1, N-2246-5-1, N-2246-1-4, and N-2246-2-4 shall be implemented simultaneously. [District Rule 2201]

**Verification:** The project owner shall provide copies of the Authority to Construct permits listed in **AQ-104** to the CPM within 15 days of their receipt from the District.

**AQ-105** Disturbances of soil related to any construction, demolition, excavation, extraction, and other earthmoving activities shall comply with the requirements for fugitive dust control in SJVUAPCD District Rule 8021 (11/15/01) unless specifically exempted under section 4.0 of Rule 8021. [District Rule 8021]

**Verification:** The project owner shall document compliance with Rule 8021 in the Monthly Compliance Report, and as necessary after construction is complete in the Quarterly Operational Report (**AQ-C7**).

**AQ-106** Outdoor handling, storage, and transport of any bulk material shall comply with the requirements of SJVUAPCD District Rule 8031 (11/15/01), unless specifically exempted under section 4.0 of Rule 8031. [District Rule 8031]

**Verification:** The project owner shall document compliance with Rule 8031 in the Monthly Compliance Report, and as necessary after construction is complete in the Quarterly Operational Report (**AQ-C7**).

**AQ-107** All sites that are subject to SJVUAPCD District Rule 8021, SJVUAPCD District Rule 8031, and SJVUAPCD District Rule 8071 shall comply with the requirements of SJVUAPCD District Rule 8041 (11/15/01), unless specifically exempted under section 4.0 of Rule 8041. [District Rule 8041]

**Verification:** The project owner shall document compliance with Rule 8041 in the Monthly Compliance Report, and as necessary after construction is complete in the Quarterly Operational Report (**AQ-C7**).

**AQ-108** Any open area having 3.0 acres or more of disturbed surface area that has remained undeveloped, unoccupied, unused, or vacant for more than 7 days shall comply with the requirements of SJVUAPCD District Rule 8051 (11/15/01), unless specifically exempted under section 4.0 of Rule 8051. [District Rule 8051]

**Verification:** The project owner shall document compliance with Rule 8051 in the Monthly Compliance Report, and as necessary after construction is complete in the Quarterly Operational Report (**AQ-C7**).

**AQ-109** Any new or existing public or private paved or unpaved road, road construction project, or road modification project shall implement the control measures and design criteria of, and comply with the requirements of SJVUAPCD District Rule 8061 (11/15/01) unless specifically exempted under section 4.0 of Rule 8061. [District Rule 8061]

**Verification:** The project owner shall document compliance with Rule 8061 in the Monthly Compliance Report, and as necessary after construction is complete in the Quarterly Operational Report (**AQ-C7**).

**AQ-110** Any unpaved vehicle/equipment traffic area of 1.0 acre or larger shall comply with the requirements of SJVUAPCD District Rule 8071 (11/15/01), unless specifically exempted under section 4.0 of Rule 8071. [District Rule 8071]

**Verification:** The project owner shall document compliance with Rule 8071 in the Monthly Compliance Report, and as necessary after construction is complete in the Quarterly Operational Report (**AQ-C7**).

**AQ-111** Any off-field agricultural sources shall comply with the requirements of SJVUAPCD District Rule 8081 (11/15/01), unless specifically exempted under section 4.0 of Rule 8081. [District Rule 8081]

**Verification:** The project owner shall document compliance with Rule 8081 in the Monthly Compliance Report, and as necessary after construction is complete in the Quarterly Operational Report (**AQ-C7**).

## B. PUBLIC HEALTH

The public health analysis supplements the previous discussion on air quality and considers the potential public health effects from project emissions of toxic air contaminants. In this analysis, we review the evidence concerning whether such emissions will result in significant adverse public health impacts that violate standards for public health protection.[14] No matters were disputed in this discipline, and we have adopted a Condition of Certification as modified through agreement between the parties. (9/29/03 RT 12-13; Exs. 11, 45, 47.)

### Summary and Discussion of the Evidence

Project construction and operation will result in routine emissions of toxic air contaminants (TACs). These substances are categorized as noncriteria pollutants because there are no ambient air quality standards established to regulate their emissions.[15] (Ex. 11, p. 4.6-1.) In the absence of standards, state and federal regulatory programs have developed a health risk assessment procedure to evaluate potential health effects from these emissions.

Typically, the initial risk analysis for a project is performed at a "screening level" which is designed to conservatively estimate actual health risks. A "hazard index" is used to assess the significance of non-cancer health effects. This entails comparing exposure from project emissions to the "reference" (safe)

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[14] This Decision discusses other potential public health concerns in the following sections. The accidental release of hazardous materials is discussed in **Hazardous Materials Management** and **Worker Safety and Fire Protection**. Electromagnetic fields are discussed in the section on **Transmission Line Safety and Nuisance**. Potential impacts to soils and surface water sources are discussed in the **Soil and Water Resources** section. Hazardous and non-hazardous wastes are described in **Waste Management**.

[15] Criteria pollutants are discussed in the **Air Quality** section.

exposure level. A total[16] hazard index of less than one indicates that cumulative worst-case exposures are less than, or below, the safe levels. Cancer risks are calculated based on the total risk from exposure to all cancer causing chemicals. A significant increased lifetime cancer risk occurs if one excess case of cancer in an exposed population of 100,000 (equivalent to a risk of ten in one million or 10 x $10^{-6}$) is calculated to occur. (Ex. 11, p. 4.6-4.)

Toxic emissions will be attributable to the project during both its construction and its operation phases.

Construction impacts will arise chiefly from exposure to windblown dust from excavation and grading, and to emissions from construction equipment. The evidence shows that the highest potential health risk at the nearest residential receptor is 2.8 in one million; this is significantly below the cancer significance criterion of 10 in one million. (Ex. 11, p. 4.6-9.)

The two CTGs, the HRSGs, a fire pump diesel engine, and the five-cell mechanical draft cooling tower will be emission sources during the project's operational phase. Potential public health risks arise from diesel exhaust emissions, natural gas combustion emissions, and cooling tower emissions including those which could raise the risk for Legionnaires' disease.

As shown in **Public Health Table 1**, below, the chronic non-cancer hazard index for the maximally exposed individual is 0.02, while the maximum hazard index for acute non-cancer effects is 0.048. These values are well below acceptable significance criteria, leading to the conclusion that the project's emissions are

[16] The hazard index for every toxic substance which has the same type of health effect is added to yield a total hazard index. The total hazard index is calculated separately for acute and chronic effects.

unlikely to pose a significant risk of chronic or acute non-cancer health effects anywhere in the project area.

**Public Health Table 1**
**Operation Hazard/Risk**

| Type of Hazard/Risk | Hazard Index/Risk | Significance Level | Significant? |
|---|---|---|---|
| **ACUTE NONCANCER** | 0.048 | 1.0 | No |
| **CHRONIC NONCANCER** | 0.02 | 1.0 | No |
| **INDIVIDUAL CANCER** | $2.81 \times 10^{-6}$ | $10.0 \times 10^{-6}$ | No |

Source: Exhibit 11, p. 4.6-11.

The cancer risk to the maximally exposed individual, as shown above, is 2.81 in a million. Virtually all the risk (2.75 in a million) is from the project's diesel fire pump. The two turbines contribute 0.03 in a million, with an additional 0.02 in a million contributed by the cooling tower. This calculated total cancer risk is well below the significance criterion for this screening level assessment. Thus, the evidence shows that any project-related cancer risk will be insignificant. (Ex. 11, p. 4.6-11.)

Finally, untreated or inadequately treated cooling systems, such as industrial cooling towers, can spread the Legionella bacterium. Condition of Certification **PUBLIC HEALTH-1** ensures that normal maintenance of the cooling system includes measures to control bacterial growth to reduce to insignificance the opportunity for growth and dispersion of Legionella. (Ex. 11, p. 6-2.)

## FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. Construction and normal operation of the project will result in the routine release of criteria and noncriteria pollutants that have the potential to adversely impact public health.

2. Potential construction-related adverse health effects from diesel emissions and fugitive dust will be mitigated to insignificant levels.

3. Emissions of criteria pollutants, which are discussed in the **Air Quality** section of this Decision, will be mitigated to levels consistent with applicable standards.

4. Applicant performed a health risk assessment, using well-established scientific protocol, to analyze potential adverse health effects of toxic air contaminants.

5. The accepted method used by state regulatory agencies in assessing the significance for both acute and chronic noncarcinogenic public health effects is known as the hazard index method. A similar method is used for assessing the significance of potential carcinogenic effects.

6. Application of the hazard index method establishes that emission of non-criteria pollutants from the Walnut Energy Center will not cause acute or chronic adverse public health effects.

7. The maximum cancer risk associated with the project is less the significance threshold commonly accepted for risk analysis purposes.

8. The project owner will implement a Cooling Water Management Plan in accordance with applicable LORS and guidelines to minimize the potential for growth of Legionella bacteria and other micro-organisms in cooling tower emissions.

9. Cumulative impacts from noncriteria pollutants are not expected to be significant.

10. Emissions from the construction, operation, and closure of the proposed natural gas-burning Walnut Energy Center will not have a significant adverse impact on the public health of the surrounding population.

We therefore conclude that project emissions of noncriteria pollutants do not pose a significant direct, indirect, or cumulative adverse public health risk and that the project will comply with the applicable laws, ordinances, regulations, and standards specified in the appropriate portion of **Appendix A** of this Decision.

**CONDITION OF CERTIFICATION**

**Public Health-1** The project owner shall develop and implement a cooling tower Biocide Use, Bio-film Prevention, and Legionella Control Program to ensure that cooling tower bacterial growth is controlled. The Program shall be consistent with Staff's guidelines or the Cooling Technology Institute's "Best Practices for Control of Legionella" guidelines.

**Verification:** At least 30 days prior to the commencement of cooling tower operations, the Biocide Use, Biofilm Prevention, and Legionella Control Program shall be provided to the CPM for review and approval.

## C. HAZARDOUS MATERIALS MANAGEMENT

This analysis considers whether the construction and operation of the Walnut Energy Center will create significant impacts to public health and safety resulting from the use, handling, or storage of hazardous materials at the facility. Several locational factors affect the potential for project-related hazardous materials to cause adverse impacts. These include local meteorological conditions, terrain characteristics, any special site factors, and the proximity of population centers and sensitive receptors. The evidence of record incorporates these factors in the analysis of potential impacts. Related issues are addressed in the **Waste Management, Public Health, Worker Safety,** and **Traffic and Transportation** portions of this Decision.

Analysis in this technical discipline was not included in the FSA (Ex. 11), but rather in a supplement thereto. (Ex. 46.) By the time of the evidentiary hearing, no areas of potential dispute remained. (9/29/03 RT 8-10; Exs. 1, 10, 14, 16, 46, 47.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

Engineering controls and administrative controls affect the significance of potential impacts due to hazardous materials usage. Engineering controls are those physical or mechanical systems (such as storage tanks or automatic shut-off valves) which can prevent a hazardous material spill from occurring, which can limit the spill to a small amount, or which can confine it to a small area. Administrative controls are those rules and procedures that workers at the facility must follow that will help to prevent accidents or keep them small if they do occur. In both cases, the goal is to prevent a spill from moving off-site and causing harm.

A variety of hazardous materials will be stored and used for construction of the project and for routine plant operation and maintenance. (Ex. 1, Tables 8.12-3, 8.12-4.) Most of these materials, such as corrosion inhibitors and water conditioners, are stored in smaller quantities. During the construction phase of the project, the only hazardous materials proposed for use include paint, paint thinner, cleaners, solvents, sealants, gasoline, diesel fuel, motor oil, hydraulic fluid, welding flux and gases, lubricants, and emergency refueling containers. Any impact resulting from spills or other releases of these materials will be limited to the site due to the small quantities involved. (Ex. 46, p. 4.4-7.)

Large quantities of five materials -- sulfuric acid, sodium hypochlorite, sodium hydroxide, mineral and lubricating oils, and anhydrous ammonia -- will be stored on-site in quantities exceeding reportable amounts as specified in state law. Of these, only anhydrous ammonia has sufficient vapor pressure to potentially cause off-site impacts. (Ex. 46, pp. 4.4-6 to 4.4-9.) Handling of the large quantity hazardous materials will be addressed in the Hazardous Materials Business Plan (HMBP) and Risk Management Plan (RMP).

Sulfuric acid does not pose a risk of off-site impacts because it has relatively low vapor pressures and thus spills would be confined to the site. In order to protect against risk of fire, Condition of Certification **HAZ-5** requires the project owner to ensure that no combustible or flammable material is stored within 100 feet of the sulfuric acid tank. (Ex. 46, p. 4.4-7.)

Sodium hydroxide is a strong base that is used in water treatment. It has a very low vapor pressure, and therefore poses no risk of atmospheric transport off-site. Sodium hydroxide does pose a risk of soil and water contamination. However, it will be stored using an impervious secondary containment structure that will prevent such contamination. The evidence establishes that use of sodium hydroxide poses no risk of impacting surrounding populations in the event of an accidental release at the facility. (Ex. 46, p. 4.4-8.)

Anhydrous ammonia will be used in controlling the NOx emissions from the combustion of natural gas in the facility and is the only hazardous material that may pose a risk of off-site impacts.[17] It is a gas at ambient temperature and is therefore stored under pressure to maintain it in the liquid state. An event causing the rupture of the tank, a pipe, or valve would result in a mixed-phase, liquid-gas jet of ammonia leaving the containment structure at a high rate. Because of its relatively high vapor pressure and the large amounts that will be stored on-site, the accidental release of anhydrous ammonia without proper mitigation could, in some circumstances, result in high down-wind concentrations of ammonia gas. (Ex. 46, p. 4.4-9.)

Staff conducted a conservative assessment of the potential impacts to the public associated with a release of ammonia. The worst-case accidental release scenarios discussed in the record assumed that a large leak would occur in the anhydrous ammonia storage vessel, thus releasing the entire contents into the air and the basin below the storage vessel, and from a transfer hose from a tanker truck onto the ground.

The modeled release scenario considered, as a worst case, the release of the entire tank's contents over a 10-minute period, under meteorological conditions of poor atmospheric dispersion, with low but steady wind speed. The resulting societal risk level represents a potential for one fatality in 100 million years, or approximately 10,000 times lower than the *de minimus* risk level of $1 \times 10^{-4}$, or one fatality in 10,000 years, which is typically used by Staff. Based on both the probabilities of occurrence and potential for exposures, the evidence shows that the most probable number of fatalities that would be caused by accidental

[17] Staff typically recommends the use of the more benign aqueous ammonia. Based on site-specific factors, however, Staff deemed use of anhydrous ammonia acceptable in this case. (9/29/03 RT 9.)

releases of anhydrous ammonia from the WEC over its estimated 30-year life span is zero. (Ex. 46, p. 4.4-12.)

The accidental mixing of sodium hypochlorite with acids or anhydrous ammonia could also result in toxic gases. Given the volumes of both anhydrous ammonia (10,200 gallons) and sodium hypochlorite (8,000 gallons) proposed for storage at this facility, the chances for accidental mixing of the two—particularly during transfer from delivery vehicles to storage tanks—must be reduced as much as possible. Measures to prevent such mixing are required as part of a Safety Management Plan for delivery of anhydrous ammonia. (Ex. 46, p. 4.4-8.) The most likely event resulting in a spill would occur during transfer from the delivery tanker to the storage tank. This will be addressed by spill prevention mitigation measures and in the RMP. Development of a Safety Management Plan for the delivery of anhydrous ammonia (see Condition of Certification **HAZ-4**) and will further reduce the risk of any accidental release not otherwise addressed. (Ex. 46, p. 4.4-20.)

Other sources of risk resulting from on-site anhydrous ammonia storage include the possibility of a terrorist attack on either the storage tank or an ammonia bulk transport truck. The release scenarios that cause maximum exposure would result from a puncture of the storage tank. Based on expert opinion and current literature, WEC's storage tank would not fit accepted criteria for desirability as such a target. To provide protection against such an event, however, Condition of Certification **HAZ-6** requires that the tank be protected by a barrier that would block the view of the tank from off-site and protect it against small arms fire.

The evidence further establishes that transportation risks will be adequately mitigated by adhering to the extensive regulatory program that applies to shipment of hazardous materials. This program includes driver competence, security threat assessment, and transport vehicle integrity. (Ex. 11, pp. 4.4-13.)

The project will also involve the construction and operation of a natural gas pipeline and handling of large amounts of natural gas. Natural gas poses a fire and/or explosion risk as a result of its flammability. While natural gas will be used in significant quantities, it will not be stored on-site. The evidence is in accord that compliance with applicable codes which incorporate measures such as the use of double block and bleed valves for fast shut off, automated combustion controls, burner management, inspection of welds, and use of corrosion resistant coatings will suffice to adequately minimize the potential for off-site impacts. (Ex. 46, pp. 4.4-8 to 4.4-9.)

## FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and reaches the following conclusions:

1. The WEC will use hazardous materials during construction and operation, including anhydrous ammonia, sulfuric acid, sodium hypochlorite, and natural gas.

2. The major public health and safety hazards associated with these hazardous materials include the accidental release of anhydrous ammonia and fire and explosion from natural gas.

3. Compliance with appropriate administrative, engineering, and regulatory requirements for safe transportation, delivery, and storage of anhydrous ammonia will reduce potential risks of accidental release to insignificant levels.

4. The risk of fire and explosion from natural gas will be reduced to insignificant levels through adherence to applicable codes and the implementation of effective safety management practices.

5. Implementation of the mitigation measures described in the evidentiary record and contained in the Conditions of Certification, below, ensures that the project will not cause significant impacts to public health and safety as the result of the handling, storage, or transportation of hazardous materials.

6. With implementation of the Conditions of Certification, below, the WEC will comply with all applicable laws, ordinances, regulations, and standards related to hazardous materials management as identified in the evidentiary record and in the pertinent portion of **Appendix A** of this Decision.

The Commission concludes, therefore, that the use of hazardous materials by the Walnut Energy Center will not result in any significant direct, indirect, or cumulative adverse public health and safety impacts.

## CONDITIONS OF CERTIFICATION

**HAZ-1** The project owner shall not use any hazardous material not listed in Attachment A, below, or in greater quantities than those identified by chemical name in Attachment A, unless approved in advance by the Compliance Project Manager (CPM).

**Verification:** The project owner shall notify the CPM of any intended change in the types and/or quantities of materials identified in Attachment A, and shall receive approval of such change prior to making such change. The project owner will provide to the CPM, in the Annual Compliance Report, a list of hazardous materials contained at the facility in reportable quantities.

**HAZ-2** The project owner shall concurrently provide a Business Plan and a Risk Management Plan (RMP) to the Certified Unified Program Authority (CUPA) (Stanislaus County) and the CPM for review at the time the RMP is first submitted to the U.S. Environmental Protection Agency (EPA). The project owner shall reflect all recommendations of the CUPA and the CPM in the final documents. Copies of the final Business Plan and RMP, reflecting all comments, shall be provided to the CPM for approval.

**Verification:** At least 30 days prior to receiving any hazardous material on the site, the project owner shall provide a copy of a final Business Plan to the CPM. At least 30 days prior to delivery of ammonia to the site, the project owner shall provide the final EPA-approved RMP to the CUPA and the CPM.

**HAZ-3** The ammonia storage facility shall be designed to the ASME Boiler and Pressure Vessel Code and ANSI K61.1. The design shall include a secondary containment basin capable of holding 100 percent of the storage volume plus the volume associated with 24 hours of rain (assuming the 25-year storm).

**Verification:** At least sixty (60) days prior to delivery of anhydrous ammonia to the facility, the project owner shall submit final design drawings and

specifications for the ammonia storage tank and secondary containment basin to the CPM for review and approval.

**HAZ-4** The project owner shall develop and implement a Safety Management Plan for delivery of anhydrous ammonia. The plan shall include procedures, protective equipment requirements, training, and a checklist.

**Verification:** At least sixty (60) days prior to the delivery of anhydrous ammonia to the facility, the project owner shall provide a safety management plan as described above to the CPM for review and approval.

**HAZ-5** The project owner shall ensure that no flammable material is stored within 100 feet of the sulfuric acid tank.

**Verification:** At least sixty (60) days prior to receipt of sulfuric acid on-site, the project owner shall provide copies of the facility design drawings showing the location of the sulfuric acid storage tank and the location of any tanks, drums, or piping containing any combustible or flammable material.

**HAZ-6** The project owner shall provide a barrier around the anhydrous ammonia storage tank that blocks it from view from locations off-site and protects against small arms fire.

**Verification:** At least thirty (30) days prior to construction, the project owner shall provide copies of the barrier design drawings to the CPM for review and approval.

# Attachment A

TID, Walnut Energy Center Chemical Inventory

| Trade Name | Chemical Name | CAS Number | Maximum Quantity Onsite |
|---|---|---|---|
| **Acutely Hazardous Materials** | | | |
| Anhydrous Ammonia | Anhydrous Ammonia | 7664-41-7 ($NH_3$) | 10,200 gal. |
| Neutralizing Amines (e.g., NALCO 356) | Cyclohexylamine (20 to 40%) | 108-91-8 | 400 gal. |
| | Morpholine (5 to 10%) | 110-91-8 | |
| Sulfuric Acid | Sulfuric Acid (93%) | 7664-93-9 | 8,000 gal. |
| **Hazardous Materials** | | | |
| Ammonium Bifluoride | Ammonium Bifluoride | 1341-49-7 | 200 lbs. initially and once every 3 to 5 years |
| Anti-Foam (e.g., NALCO 71 D5 ANTIFOAM) | Hydrotreated light distillate (10-20%) | 6742-47-8 | 400 gal. |
| | n-Decanol (1-5%) | 112-30-1 | |
| | n-Octanol (5-10%) | 118-87-5 | |
| Antifreeze | Propylene Glycol | 57-55-6 | 55 gal. |
| Calcium Sulfate | Calcium Sulfate | 10101-41-4 | 4,000 lbs. |
| Chelating Agents | Ethylenediaminetetra-acetic acid (EDTA) | 60-00-4 | 55 gal. |
| Citric Acid | Citric Acid | 77-92-9 | 100 lb. |
| Cleaning Chemicals/Detergents | Various | None | 100 gal. |
| Diesel No. 2 | Oil | None | 500 gal. |
| Formic Acid | Formic Acid | 64-18-6 | 600 lb. prior to startup; 100 gal. on a regular basis |
| Hydraulic Oil | Oil | None | 500 gal. |
| Hydrochloric Acid | Hydrochloric Acid (30%) | 7647-01-0 | 10,000 lb. initially and once every 3 to 5 years; 55 gal. on a regular basis |
| Hydroxyacetic Acid | Gyrolic Acid | None | 1000 lb. prior to startup; 100 gal. on a regular basis |
| Laboratory Reagents (liquid) | Various | None | 10 gal. |
| Laboratory Reagents (solid) | Various | None | 100 lb. |
| Lubrication Oil | Oil | None | 15,000 gal. |
| Mineral Insulating Oil | Oil | 8012-95-1 | 70,000 gal. |
| Non-Oxidizing Biocide (e.g., NALCO 7330) | 5-Chloro-2-Methyl-4-Isothiazolin-3-one (1.1%) | 26172-55-4 | 200 gal. |
| | 2-Methyl-4-Isothiazolin-3-one (0.3%) | 2682-20-4 | |
| Oxygen Scavenger (e.g., NALCO ELIMIN-OX) | Carbohydrazide | 497-18-7 | 400 gal. |

| Trade Name | Chemical Name | CAS Number | Maximum Quantity Onsite |
|---|---|---|---|
| Sodium Carbonate (Soda Ash) | Sodium Carbonate | 497-19-8 | 1,000 lb. Initially and once every 3 to 5 years |
| Sodium Hypochlorite (Bleach) | Sodium Hypochlorite (12.5%) | 7681-52-9 | 8,000 gal. |
| Sodium Nitrate | Sodium Nitrate | 7631-99-4 | 500 lb. initially and once every 3 to 5 years |
| Sodium Nitrite | Sodium Nitrite | 7632-00-0 | 500 lb. initially and once every 3 to 5 years |
| Sodium Sulfate | Sodium Sulfate | 7757-82-6 | 4,000 lb. |
| Stabilized Bromine (NALCO STABREX ST70) | Sodium Hydroxide (1 to 5%)<br>Sodium Hypobromite (10 to 50%) | 1310-73-2<br>13824-96-9 | 2,000 gal. |
| Sulfur Hexafluoride | Sulfur Hexafluoride | 2551-62-4 | 200 lb. |
| Trisodium Phosphate | Sodium Phosphate, Tribasic | 7601-54-9 | 400 gal. |

| Trade Name | Chemical Name | CAS Number | Maximum Quantity Onsite |
|---|---|---|---|
| Scale Inhibitors (various) | Polyacrylate | Various | 1,500 gal. |
| Sodium Bromide | Sodium Bromide | 7647-15-6 | 6,000 gal. |
| Sodium Carbonate (Soda Ash) | Sodium Carbonate | 497-19-8 | 1,000 lb. Initially and once every 3 to 5 years |
| Sodium Hypochlorite (Bleach) | Sodium Hypochlorite (12.5%) | 7681-52-9 | 8,000 gal. |
| Sodium Nitrate | Sodium Nitrate | 7631-99-4 | 500 lb. initially and once every 3 to 5 years |
| Sodium Nitrite | Sodium Nitrite | 7632-00-0 | 500 lb. initially and once every 3 to 5 years |
| Sodium Sulfate | Sodium Sulfate | 7757-82-6 | 4,000 lb. |
| Stabilized Bromine (NALCO STABREX ST70) | Sodium Hydroxide (1 to 5%)<br>Sodium Hypobromite (10 to 50%) | 1310-73-2<br>13824-96-9 | 2,000 gal. |
| Sulfur Hexafluoride | Sulfur Hexafluoride | 2551-62-4 | 200 lb. |
| Trisodium Phosphate | Sodium Phosphate, Tribasic | 7601-54-9 | 400 gal. |

## D. WASTE MANAGEMENT

The project will generate hazardous and non-hazardous wastes during its construction and operation. Staff reviewed the Applicant's waste management plans for reducing the risks and potential environmental impacts associated with the handling, storage, and disposal of hazardous and non-hazardous project-related wastes.

The evidence in this topic area addresses site excavation, as well as project construction and operation. It was undisputed. (8/25/03 RT 21-24.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Site Excavation

The ENSR Corporation conducted a Phase I Environmental Site Assessment (ESA) in accordance with the ASTM Standard E 1527, Standard Practice for Environmental Site Assessments. The ESA report, dated September 2002, concluded that past and present activities were mainly agricultural in nature and recommended that soil samples be collected to determine the presence of metals and organochlorine pesticides. The Phase II Environmental Site Assessment detected no pesticide residues in soils. Low levels of metals were detected, but these were deemed to be naturally occurring compounds indigenous to the soils in the area. (Ex. 3, p. 31; Ex. 11, p. 4.12-3.)

The evidence further indicates that Staff, in response to concerns voiced by the Department of Toxic Substances Control (DTSC), requested that Applicant provide data in order to determine whether or not organochlorine pesticides were present. On April 30, 2003, Applicant submitted this data and a comparison of those results to USEPA's preliminary remediation goals (PRGs). The DTSC confirmed that the detection levels of the organochlorine pesticides were well

below the USEPA PRGs and therefore not a matter of regulatory concern. (Ex. 11, p. 4.12-10.) If contaminated soils are encountered, Conditions of Certification **WASTE -1** and **WASTE-2**[18] ensure appropriate mitigation will be implemented. (Ex. 11, p. 4.12-14.)

Since final facility design and operational procedures may impact the amounts and types of wastes ultimately generated, the project owner will be required to submit waste management plans for construction and operation under Condition of Certification **WASTE-5**. (Ex. 11, p. 4.12-12.)

2. Construction

Project construction will generate both hazardous and nonhazardous wastes. The former include about 6 tons of wood, paper, glass and plastics, 40 tons of excess concrete, 15 tons of scrap metal, and 300 tons of drilling mud. These wastes will be recycled to the extent possible; nonrecyclable wastes will be collected and disposed in an appropriate landfill. (Ex. 11, p. 4.12-4.)

Hazardous wastes normally generated during construction include liquid waste such as flushing and cleaning fluids, passivating fluid (to prepare pipes for use), and solvents. Some hazardous solid waste, such as welding materials or dried paint, may also be generated. The quantity of welding, solvent, and paint waste is expected to be minimal. All hazardous wastes generated during construction will be recycled or removed from the site and disposed in a licensed hazardous waste treatment or disposal facility. (Ex. 1, pp. 8.13-5 to 8.13-6; Ex. 11, pp. 4.12-4 to 4.12-5.)

[18] **WASTE-2** includes the modification suggested by Applicant. (8/25/03 RT 23.)

3. Operation

Approximately 50 cubic yards of items such as rags, turbine air filters, machine parts, electrical materials, and empty containers are typical nonhazardous wastes created during project operation. These will be recycled or appropriately disposed. (Ex. 11, p. 4.12-5.)

The Zero Liquid Discharge (ZLD) system will process wastewater, returning a relatively high quality distillate stream for reuse in the plant, and producing a solid waste stream. Since the distillate stream will be concentrated, contained, and reused in a closed system, it does not require hazardous waste testing. ZLD operations will create about eight tons of salt cake waste daily. While it is not expected that this waste will be hazardous, testing is required by Condition **WASTE-6** to ensure its proper classification and disposal.

Hazardous operational waste includes waste lubricating oil, used oil filters, spent SCR catalyst, and chemical cleaning wastes. All hazardous wastes generated during construction and operation will be managed in accordance with federal and state laws and regulations. The wastes will be properly characterized and recycled or transported off-site to approved treatment, storage, or disposal facilities by licensed hazardous waste haulers. To help ensure the proper handling and use of appropriate hazardous waste disposal facilities, Conditions of Certification **WASTE-3** and **WASTE-4** require the project owner to obtain a construction hazardous waste generator identification number and to notify the Compliance Project Manager of any known enforcement actions against hazardous waste facilities or companies used for project waste disposal. (Ex. 11, pp. 4.12-11 to 4.12-12.)

While the WEC's construction and operation wastes will add to the total quantity of waste generated in the state, the evidence establishes that recycling and available capacity in appropriate landfills will ensure that no significant waste

management impacts will result. (Ex. 11, pp. 4.12-7 to 4.12-8.) Finally, waste impacts from project closure will be adequately treated by the required closure plan.

## FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, we find as follows:

1. The project will generate hazardous and nonhazardous wastes during construction and operation.
2. Phase I and Phase II Environmental Site Assessments indicate the soil at the project site is below the level of regulatory concern. Conditions of Certification **WASTE-1** and **WASTE-2** ensure that any contaminated soil will be handled in accordance with applicable laws, ordinances, regulations, and standards.
3. Hazardous and nonhazardous wastes will be recycled to the extent practical.
4. Wastes which cannot be recycled will be disposed in appropriate landfills.
5. Disposal of project wastes will not result in significant adverse impacts to existing waste disposal facilities.
6. The Conditions of Certification set forth below and waste management practices detailed in the evidentiary record will reduce potential waste impacts to insignificant levels.
7. Implementation of the Conditions of Certification will ensure that the project complies with the applicable laws, ordinances, regulations, and standards identified in the appropriate portion of **Appendix A** of this Decision.

We therefore conclude that the project's construction and operational wastes will be properly managed, and will not create a significant direct, indirect, or cumulative adverse impact.

**CONDITIONS OF CERTIFICATION**

**WASTE-1** The project owner shall provide the resume of a Registered Professional Engineer or Geologist, who shall be available for consultation during soil excavation and grading activities, to the CPM for review and approval. The resume shall show experience in remedial investigation and feasibility studies.

The Registered Professional Engineer or Geologist shall be given full authority to oversee any earth moving activities that have the potential to disturb contaminated soil.

**Verification:** At least 30 days prior to the start of site mobilization, the project owner shall submit the resume to the CPM.

**WASTE-2** If potentially contaminated soil is unearthed during excavation at either the proposed site or linear facilities as evidenced by discoloration, odor, detection by handheld instruments, or other signs, the Registered Professional Engineer or Geologist shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and file a written report to the project owner and CPM stating the recommended course of action.

Depending on the nature and extent of contamination, the Registered Professional Engineer or Geologist shall have the authority to temporarily suspend construction activity at that location for the protection of workers or the public. If, in the opinion of the Registered Professional Engineer or Geologist, significant remediation may be required, the project owner shall contact representatives of the Regional Water Quality Control Board (as appropriate), the County of Stanislaus Department of Environmental Resources, and the Sacramento Office of the California Department of Toxic Substances Control for guidance and possible oversight.

**Verification:** The project owner shall submit any final reports filed by the Registered Professional Engineer or Geologist to the CPM within 5 days of their receipt. The project owner shall notify the CPM within 24 hours of any orders issued to halt construction.

**WASTE-3** The project owner shall ensure that a construction hazardous waste generator identification number is obtained from the Department of Toxic Substances Control prior to generating any hazardous waste.

**Verification:** The project owner shall keep a copy of the identification number on file at the project site and notify the CPM via the Monthly Compliance Report of its receipt.

**WASTE-4** Upon becoming aware of any impending waste management-related enforcement action by any local, state, or federal authority, the project owner shall notify the CPM of any such action taken or proposed to

be taken against the project itself, or against any waste hauler or disposal facility or treatment operator with which the owner contracts.

**Verification:** The project owner shall notify the CPM in writing within 10 days of becoming aware of an impending enforcement action. The CPM shall notify the project owner of any changes that will be required in the manner in which project-related wastes are managed.

**WASTE-5** The project owner shall prepare a Construction Waste Management Plan and an Operation Waste Management Plan for all wastes generated during construction and operation of the facility, respectively, and shall submit both plans to the CPM for review and approval. The plans shall contain, at a minimum, the following:

- A description of all waste streams, including projections of frequency, amounts generated, and hazard classifications; and
- Methods of managing each waste stream, including treatment methods and companies contracted with for treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/reduction plans; and
- The construction plan shall contain a description of hazardous waste identification training for workers who are involved in earthmoving activities.

**Verification:** No less than 30 days prior to the start of site mobilization, the project owner shall submit the Construction Waste Management Plan to the CPM.

The Operation Waste Management Plan shall be submitted no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions within 20 days of notification by the CPM.

In the Annual Compliance Reports, the project owner shall document the actual waste management methods used during the year compared to the planned management methods.

**WASTE-6** The project owner shall test the salt cake product from the crystallizer for the presence of hazardous levels of metals. If levels are below ten times the Soluble Threshold Level Concentration as listed in Title 22, California Code of Regulations, section 66261.24, then future testing is not required unless there is a substantial change in the wastewater treatment process. If not classified as a hazardous waste, the project owner shall manage the salt cake product appropriately as a nonhazardous or designated waste unless it is sold as a commercial product.

**Verification:** No later than 30 days after the initial generation of salt cake, the project owner shall notify the CPM of the test results and the planned disposal method.

## E. WORKER SAFETY AND FIRE PROTECTION

Industrial workers are exposed to potential health and safety hazards on a daily basis. This analysis reviews whether Applicant's proposed health and safety plans will be adequate to protect industrial workers and provide fire protection and emergency response in accordance with all applicable laws, ordinances, regulations, and standards. Evidence presented during the hearings was uncontested. (8/25/03 RT 24-25.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

During construction and operation, workers may be exposed to chemical spills, hazardous wastes, fires, gas explosions, moving equipment, live electric conductors, or confined space entry and egress problems. Exposure to these hazards can be minimized through adherence to appropriate design criteria and administrative controls, use of personal protective equipment, and compliance with applicable LORS. (Ex. 11, pp. 5.13-4 to 5.13-5.)

Applicant will develop and implement a "Construction Safety and Health Program" and an "Operations and Maintenance Safety and Health Program," both of which must be reviewed by the appropriate agencies prior to project construction and operation. (Ex. 4; Ex. 11, pp. 5.13-5 to 5.13-7.) Separate Injury and Illness Prevention Programs, Personal Protective Equipment Programs, Emergency Action Plans, Fire Protection and Prevention Plans, and other general safety procedures will be prepared for both the construction and operation phases of the project.

The project will rely on both on-site fire protection systems and local fire protection services. The on-site fire protection system provides the first line of defense for small fires. In the event of a major fire, fire support services including

trained firefighters and equipment for a sustained response will come from the City of Turlock Fire Department. (Ex. 11, p. 5.13-10.)

The evidence shows that the project will meet the applicable fire protection and suppression requirements. Both fixed and portable fire extinguishing systems, as well as two sources of fire water, will be available. The City of Turlock's potable water system will be the primary source of fire water, with a secondary source consisting of a dedicated minimum supply of 240,000 gallons stored in a tank on-site. The storage tank water would provide 2 hours of protection from the worst-case single fire. This fire water supply and an on-site electric fire water pumping system (with diesel generator back-up) will provide an adequate quantity of fire-fighting water to yard hydrants, hose stations, water spray, and sprinkler systems. (Ex. 1, p. 2-15; Ex. 11, p. 5.13-10.)

Conditions of Certification **WORKER SAFETY-1** and **WORKER SAFETY-2** will ensure that appropriate entities review the project programs, necessary to protect workers and ensure adequate emergency responses.

**FINDINGS AND CONCLUSIONS**

Based on the uncontroverted evidence of record, the Commission makes the following findings and conclusions:

1. Industrial workers are exposed to potential health and safety hazards on a daily basis.

2. To protect workers from job-related injuries and illnesses, the project owner will implement comprehensive Safety and Health Programs for both the construction and the operation phases of the project.

3. The WEC will include on-site fire protection and suppression systems for first line defense in the event of a fire.

4. The City of Turlock Fire Department will provide fire protection and emergency response services to the project.

5. Existing fire and emergency service resources are adequate to meet project needs.

6. The WEC will not result in cumulative adverse impacts to the City of Turlock Fire Department's emergency response capabilities.

7. Implementation of the Conditions of Certification, below, and the mitigation measures described in the evidentiary record will ensure that the project conforms with all applicable laws, ordinances, regulations, and standards on industrial worker health and safety as identified in the pertinent portions of **Appendix A** of the Decision.

The Commission therefore concludes that implementation of the project owner's Safety and Health Programs and Fire Protection measures will reduce potential adverse impacts to the health and safety of industrial workers to levels of insignificance.

**CONDITIONS OF CERTIFICATION**

**WORKER SAFETY-1** The project owner shall submit to the CPM a copy of the Project Construction Safety and Health Program containing the following:

1. A Construction Injury and Illness Prevention Program;
2. A Construction Fire Protection and Prevention Plan; and
3. A Personal Protective Equipment Program.

- The Construction Injury and Illness Prevention Program and the Personal Protective Equipment Program shall be submitted to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) Consultation Service, if appropriate, for review and comment concerning compliance of the program with all applicable Safety Orders.
- The Construction Fire Protection and Prevention Plan shall be submitted to the CPM for review and approval, and to the City of Turlock Fire Department for review and comment.

**Verification:** At least 30 days prior to the start of construction, the project owner shall submit to the CPM a copy of the Project Construction Safety and Health Program, the Personal Protective Equipment Program, and the Construction Fire Protection and Prevention Plan, including a copy of the cover letter transmitting the Programs to Cal/OSHA's Consultation Service, if appropriate.

**WORKER SAFETY-2** The project owner shall submit to the CPM a copy of the Project Operation Safety and Health Program containing the following:

a. Operation Injury and Illness Prevention Program;
b. Emergency Action Plan;
c. Operation Fire Protection Program; and
d. Personal Protective Equipment Program.

- The Operation Injury and Illness Prevention Program, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) Consultation Service, as appropriate, for review and comment concerning compliance of the program with all applicable Safety Orders.
- The Operation Fire Protection Program and the Emergency Action Plan shall be submitted to the fire protection agency serving the project for review and comment.

**Verification:** At least 30 days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the Project Operation Safety & Health Program. The document shall incorporate Cal/OSHA's Consultation Service comments, if any, regarding its review and acceptance of the specified elements of the proposed Operation Safety and Health Program.

The project owner shall notify the CPM that the Project Operation Safety and Health Program, including all records and files on accidents and incidents, is present on-site.

# VI. ENVIRONMENTAL ASSESSMENT

## A. BIOLOGICAL RESOURCES

The Commission must consider the potential impacts of project-related activities on biological resources, including state and federally listed species, species of special concern, wetlands, and other topics of critical biological interest such as unique habitats. The review contained in the record describes the biological resources in the vicinity of the project site and linear alignments, assesses the potential for adverse impacts on biological resources, and determines whether mitigation measures are necessary to ensure compliance with applicable laws, ordinances, regulations, and standards. That review is summarized below. The evidence presented was uncontested (9/29/03 RT 5-8), and we have incorporated changes suggested by the parties to the Conditions of Certification (9/29/03 RT 5-7; Exs. 11, 45, 47).

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The primary land uses in the project vicinity are agriculture and industry. Habitat types potentially affected are agricultural fields, irrigation canals and drainages, fragmented riparian habitat, ruderal roadsides, industrial/commercial, landscape, and small residential farms. (Ex. 1, p. 8.2-4.) Agriculture dominates both the project site and habitat along the linear project features. Farming is intensive, resulting in the removal of native vegetation, and farm fields are plowed or graded up to the edge of rural roads and highways.

TID operates a series of irrigation canals and drains which deliver irrigation water to and from agricultural fields. These canals and the agricultural fields provide habitat for common species such as western scrub-jay (*Aphelocoma californica*), mallards (*Anas platyrhynchos*), and raptors such as red-tailed hawks *(Buteo*

*jamiacensis*). Other animals found in the area include the California ground squirrel (*Spermophilus beecheyi*) and coyote (*Canis latrans*).

**Biological Resources Table 1** lists the wildlife and plant species of concern that were observed or have the potential to be present in the project area.

**Biological Resources Table 1**
Sensitive Species and Natural Communities
With the Potential to be Present in the WEC Project Area

| **Common Name** | ***Scientific Name*** | **Status*** Fed/State/other |
|---|---|---|
| **Plants** | | |
| Alkali milk-vetch | *Astragalus tener var. tener* | --/--/1B |
| Brittlescale | *Atriplex depressa* | --/--/1B |
| Delta button-celery | *Eryngium racemosum* | --/CE/1B |
| Heartscale | *Atriplex cordulata* | --/--/1B |
| Vernal pool smallscale | *Atriplex persistens* | FSC/--/1B |
| Merced monardella | *Monardella leucocephala* | FSC/--/1A |
| **Invertebrates** | | |
| Valley elderberry longhorn beetle | *Desmocerus californicus dimorphus* | FT/-- |
| California linderiella | *Linderiella occidentalis* | CSC/--/-- |
| Vernal pool tadpole shrimp | *Lepidurus packardi* | FT/--/-- |
| Conservancy fairy shrimp | *Branchinecta conservatio* | FE/--/-- |
| Vernal pool fairy shrimp | *Branchinecta lynchi* | FE/--/-- |
| Longhorn fairy shrimp | *Branchinecta longiantenna* | FE/--/-- |
| Midvalley fairy shrimp | *Branchinecta mesovallensis* | FSC/--/-- |
| **Fishes** | | |
| Central Valley steelhead | *Oncorhynchus mykiss* | FT/--/-- |
| Central Valley fall/late-fall chinook salmon | *Oncorhynchus tshawytscha* | FC/--/-- |
| Sacramento splittail | *Pogonichthys macrolepidotus* | FT/--/-- |
| **Reptiles** | | |
| Giant garter snake | *Thamnophis gigas* | FT/CT/-- |
| Western pond turtle | *Clemmys marmorata* | --/CSC/-- |
| **Birds** | | |
| Aleutian Canada goose | *Branta Canadensis leucopareia* | FD/--/-- |
| Swainson's hawk | *Buteo swainsoni* | --/CT/-- |
| Ferruginous hawk | *Buteo regalis* | FSC/--/-- |
| White-tailed kite | *Elanus leucurus* | FSC/FP/-- |
| Western burrowing owl | *Athene cunicularia hypugaea* | FSC/CSC/-- |
| Greater sandhill crane | *Grus canadensis tabida* | --/CT, FP/-- |
| Snowy egret (rookery) | *Egretta thula* | --/FP/-- |
| Long-billed curlew | *Numenius americanus* | FSC/CT/-- |
| White-faced ibis | *Plegadis chihi* | FSC/CSC/-- |
| Mountain plover | *Charadrius montanus* | FP/CSC/-- |
| Tricolored blackbird | *Agelaius tricolor* | --/CSC/-- |
| California horned lark | *Eremophila alpestris actia* | --/CSC/-- |
| Grasshopper sparrow | *Ammodramus savannarum* | FSC/--/-- |
| Loggerhead shrike | *Lanius ludovicianus* | FSC/CSC/-- |
| **Mammals** | | |
| San Joaquin pocket mouse | *Perognathus inornatus inornatus* | FSC/CSC/-- |
| San Joaquin kit fox | *Vulpes macrotis mutica* | FE/CT/-- |

*Federal: FE =Federally Endangered; FT= Federally Threatened; FSC= Federal "Species of Special Concern"; FP= Federally Proposed for listing;
State: CE= State listed as Endangered; CT= State listed as Threatened; FP=CDFG designated as "Fully Protected"; CSC=CDFG designated "Species of Special Concern" Other: 1A = List 1A : Plants presumed extinct in California; 1B =List 1B:Plants that are rare, threatened or endangered in California and elsewhere. California Native Plant Society (CNPS) Inventory of Rare & Endangered Plants of California (2001).
Source: Ex. 11, p. 4.2-8.

Most of the known locations of sensitive species found in the region occur along the San Joaquin and Merced rivers to the west and south. Sensitive species found within ten miles of the site include Swainson's hawk, valley elderberry longhorn beetle, alkali milk vetch, brittle scale, delta button-celery, heart scale, Merced monardella, Sacramento split tail, vernal pool small scale, and the western pond turtle. (Ex. 1; Ex. 11, p. 4.2-4.)

Along the existing dirt road that will be paved for site access are an earthen canal and a 0.5-acre area of riparian vegetation that includes Fremont cottonwood (*Populus fremontii)*, black walnut (*Juglans hindsii*), mulberry (*Morus* sp.), and tree-of-heaven (*Ailanthus altissima*). The riparian patch receives water from the adjacent irrigation canal which ends at the riparian area. Along the canal and the dirt road is a berm that contains small mammal burrows and could potentially be used by burrowing owls. Other bird species that could potentially use the site for foraging habitat and the riparian area for nesting are Swainson's hawks and white-tailed kites. (Ex. 11, p. 4.2-5.) Bird surveys were conducted in the spring of 2003. No sensitive bird species were observed nesting or foraging at the site or along the linear facilities. (Ex. 11, p. 4.2-6.)

Surveys conducted for biological resources focused on special-status species that could potentially occur in the project vicinity. The surveys included the WEC site, an area 1 mile from the plant site, and the areas within 1,000 feet of either side of the proposed linear alignments. Field surveys of the project area, published and unpublished literature, and natural resource agency databases provided information on the presence or potential presence of sensitive biological species. Field surveys included general reconnaissance, winter and spring bird surveys, and CDFG/USFWS-approved survey methods for western burrowing owls, Swainson's hawks, and vernal pool branchiopod. The surveys concluded that no loss of designated critical habitat for listed species will occur from project construction. (Ex. 45, pp. 33-34.)

Other sensitive species that could be found at the site and along the linear facilities are associated with vernal pools. No pools that could support vernal pool invertebrate species were observed at the project site as the area is heavily disturbed from agricultural practices. None of the canals in the project impact areas contains suitable vegetation for significant wildlife use and no special-status species were observed or are known or expected to inhabit the drainages in the project impact areas. None of the irrigation or drainage canals in the project area support riparian communities. (Ex. 1, pp. 8.2-4 to 8.2-6.)

A wetland survey was completed on April 8, 2003 for the project site and along the linear facilities. No wetlands were identified in the project survey besides the two constructed treatment wetland ponds at the Turlock Wastewater Treatment Plant. These ponds will not be impacted by construction of the WEC or the water pipelines.

The project will result in temporary and permanent habitat loss, as shown in **Biological Resources Table 2**, below.

**Biological Resources Table 2**
Permanent and Temporary Impacts (Acres)

| PROJECT COMPONENT | Permanent | Temporary |
|---|---|---|
| Power plant site | 16 acres | N/A |
| Access roads | 1.9 acres | N/A |
| Construction Lay down | N/A | 51 acres |
| Natural Gas Pipeline | N/A | 33 acres |
| Potable water supply pipeline* | N/A | 10.9 acres |
| Recycled water supply pipeline* | N/A | 8.5 acres |
| Transmission Lines | 0.1 acres | 3.6 acres |
| **Total** | **18.0 acres** | **107 acres** |

Source: Ex. 11, p. 4.2-10.
* For 0.9 mile the Potable and Recycled water pipelines will be in the same trench

Habitat loss is the primary cause of population declines in special-status species in the San Joaquin Valley as well as a reason for decline in Swainson's hawk and burrowing owl populations. Surveys were conducted to assess avian nesting and

foraging habitat in the vicinity of the WEC and along the linear facilities. Swainson's hawk and burrowing owl foraging habitat will not be impacted by construction of the WEC. Therefore, habitat losses are not considered significant and mitigation for habitat loss is not required. (Ex. 11, p. 4.2-11.)

The natural gas and water supply pipelines will be sited within road shoulders and ruderal habitat. The lay down area will be returned to agriculture use when construction of the WEC is complete. Once construction is complete there will be no additional habitat disturbance or loss. Therefore, no significant impacts to the species listed in **Biological Resources Table 1** from temporary habitat loss are expected.

No sensitive plants were observed during reconnaissance or special status plant surveys of the project site and linear facilities. The other sensitive plant species listed in **Biological Resources Table 1** are either associated with vernal pools or riparian areas along a water course that is subject to periodic flooding. No vernal pools or riparian areas will be impacted by construction or operation of the WEC. Construction and operation of the WEC will not therefore impact sensitive plant species. (Ex. 11, p. 4.2-11.)

Finally, the evidence details various mitigation measures designed to ensure that the project's impacts upon biological resources are minimized. (Ex. 11, pp. 4.2-15 to 4.2-18.) These diverse measures include monitoring (Conditions **BIO-1, BIO-2, BIO-3**), worker awareness training (**BIO-4**), avoidance and restoration measures (**BIO-2, BIO-5, BIO-11**), and compliance with the requirements of other involved agencies such as the California Department of Fish and Game (**BIO-7**), the RWQCB (**BIO-8**), and the US Army Corps of Engineers (**BIO-9**).

Nothing in the record suggests that the mitigation identified is insufficient to ensure that biological resources are not significantly impacted.

## FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, we find and conclude as follows:

1. No special status species exist on the project site or along the linear corridors.
2. The project will not create significant adverse effects to any protected species.
3. The measures specified in the Conditions of Certification will adequately mitigate the potential direct, indirect, and cumulative adverse effects of the Walnut Energy Center upon biological resources to a less than significant level.
4. With the implementation of the mitigation measures contained in the Conditions of Certification, the project will conform with all applicable laws, ordinances, regulations, and standards governing biological resources.

We therefore conclude that implementation of the Conditions of Certification below will ensure that construction and operation of the WEC project will not create any significant direct, indirect, or cumulative adverse impacts to biological resources, and that the project will conform with all applicable laws, ordinances, regulations, and standards relating to biological resources as identified in the pertinent portion of **Appendix A** of this Decision.

## CONDITIONS OF CERTIFICATION

### Designated Biologist Selection

**BIO-1** The project owner shall submit the resume, including contact information, of the proposed Designated Biologist and Biological Monitors to the CPM for approval.

**Verification:** The project owner shall submit the specified information at least 60 days prior to the start of any site (or related facilities) mobilization. Site and related facility activities shall not commence until an approved Designated Biologist and Biological Monitors are available to be on-site.

The Designated Biologist must meet the following minimum qualifications:

1. Bachelor's Degree in biological sciences, zoology, botany, ecology, or a closely related field;
2. Three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society; and
3. At least one year of field experience with biological resources found in or near the project area.

If a Designated Biologist needs to be replaced, the specified information for the proposed replacement must be submitted to the CPM at least 10 working days prior to the termination or release of the preceding Designated Biologist.

**Designated Biologist Duties**

**BIO-2** The project owner shall ensure that the Designated Biologist and Biological Monitors perform the following during any site (or related facilities) mobilization, ground disturbance, grading, construction, operation, and closure activities:

1. Advise the project owner's Construction and Operation Managers on the implementation of the biological resources Conditions of Certification;
2. Be available to supervise or conduct mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special status species or their habitat;
3. Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions;
4. Inspect active construction areas where animals may have become trapped prior to construction commencing each day. At the end of the day, inspect for the installation of structures that prevent entrapment or allow escape during periods of construction inactivity. Periodically inspect areas with high vehicle activity (i.e. parking lots) for animals in harm's way;
5. Notify the project owner and the CPM of any non-compliance with any biological resources Condition of Certification; and
6. Respond directly to inquiries of the CPM regarding biological resource issues.

**Verification:** The project owner shall ensure that the Designated Biologist maintains written records of the tasks described above; summaries of these records shall be submitted in the Monthly Compliance Reports.

During project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report.

**Designated Biologist Authority**

**BIO-3** The project owner's Construction/Operation Manager shall act on the advice of the Designated Biologist to ensure conformance with the biological resources Conditions of Certification.

If required by the Designated Biologist, the project owner's Construction/ Operation Manager shall halt all site mobilization, ground disturbance, grading, construction, and operation activities in areas specified by the Designated Biologist.

The Designated Biologist shall:

1. Require a halt to all activities in any area when determined that there shall be adverse impact to biological resources if the activities continue;
2. Inform the project owner and the Construction/Operation Manager when to resume activities; and
3. Notify the CPM if there is a halt of any activities, and advise the CPM of any corrective actions that have been taken, or will be instituted, as a result of the halt.

**Verification:** The project owner shall ensure that the Designated Biologist notifies the CPM immediately (and no later than the following morning of the incident, or Monday morning in the case of a weekend) of any non-compliance or a halt of any site mobilization, ground disturbance, grading, construction, and operation activities. The project owner shall notify the CPM of the circumstances, and the actions being taken to resolve the problem.

Whenever corrective action is taken by the project owner, a determination of success or failure will be made by the CPM within 5 working days after receipt of notice that corrective action is completed, or the project owner will be notified by the CPM that coordination with other agencies will require additional time before a determination can be made.

**Worker Environmental Awareness Program**

**BIO-4** The project owner shall develop and implement a CPM approved Worker Environmental Awareness Program (WEAP) in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or any related facilities during site mobilization, ground disturbance, grading, construction, operation and

closure are informed about sensitive biological resources associated with the project.

The WEAP must:

1. Be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation in which supporting written material is made available to all participants;
2. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas;
3. Present the reasons for protecting these resources;
4. Present the meaning of various temporary and permanent habitat protection measures;
5. Identify whom to contact if there are further comments and questions about the material discussed in the program; and
6. Include a training acknowledgment form to be signed by each worker indicating that the worker received training and shall abide by the guidelines.

The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist.

**Verification:** At least 60 days prior to the start of any site (or related facilities) mobilization, the project owner shall provide to the CPM two copies of the WEAP and all supporting written, visual, and electronic media materials prepared or reviewed by the Designated Biologist and a resume of the person(s) administering the program.

The project owner shall provide in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date.

The signed training acknowledgement forms shall be kept on file by the project owner for a period of at least 6 months after the start of commercial operation.

During project operation, signed statements for active project operational personnel shall be kept on file for 6 months following the termination of an individual's employment.

**Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP)**

**BIO-5** The project owner shall submit two copies of the proposed BRMIMP to the CPM (for review and approval) and to CDFG and USFWS (for

review and comment) and shall implement the measures identified in the approved BRMIMP.

The final BRMIMP shall identify:

1. All biological resources mitigation, monitoring, and compliance measures proposed and agreed to by the project owner;
2. All biological resources Conditions of Certification identified in the Commission's Final Decision;
3. All biological resource mitigation, monitoring, and compliance measures required in federal agency terms and conditions, such as those provided in the USFWS Biological Opinion or ACOE Nationwide Permit;
4. All biological resources mitigation, monitoring, and compliance measures required in other state agency terms and conditions, such as those provided in the Streambed Alteration Agreement Notification and Regional Water Quality Control Board permits;
5. All biological resources mitigation, monitoring, and compliance measures required in local agency permits, such as site grading and landscaping requirements;
6. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation, and closure;
7. All required mitigation measures for each sensitive biological resource;
8. A detailed description of measures that shall be taken to avoid or mitigate temporary disturbances from construction activities;
9. All locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction;
10. Aerial photographs, at an approved scale, of all areas to be disturbed during project construction activities - one set prior to any site or related facilities mobilization disturbance and one set subsequent to completion of project construction. Include planned timing of aerial photography and a description of why times were chosen;
11. Duration for each type of monitoring and a description of monitoring methodologies and frequency;
12. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;
13. All performance standards and remedial measures to be implemented if performance standards are not met;

14. A discussion of biological resources related facility closure measures;
15. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval;
16. A copy of all biological resources permits obtained;
17. A contingency plan for response to a potential frac-out into waterways during drilling activities;
18. A copy of the restoration and revegetation plan; and
19. A plan for monitoring the storm water detention basin for bird use and the transmission lines for bird kills.

**Verification:** The project owner shall provide the specified document at least 60 days prior to start of any site (or related facilities) mobilization. Permits shall be included in the BRMIMP prior to disturbance in biologically sensitive areas. The CPM, in consultation with the CDFG, the USFWS, and any other appropriate agencies, shall determine the BRMIMP's acceptability within 45 days of receipt.

The project owner shall notify the CPM no less than 5 working days before implementing any modifications to the approved BRMIMP to obtain CPM approval.

Any changes to the approved BRMIMP must also be approved by the CPM in consultation with CDFG, the USFWS, and appropriate agencies to ensure no conflicts exist.

The project owner shall include monitoring and mitigation information in the monthly reports. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the project's site mobilization, ground disturbance, grading, and construction phases, and which mitigation and monitoring items are still outstanding.

**Closure Plan Measures**

**BIO-6** The project owner shall incorporate into the permanent or unexpected permanent closure plan, and the BRMIMP, measures that address the local biological resources.

The planned permanent or unexpected permanent closure plan shall address the following biological resources related mitigation measures:

1. Removal of transmission conductors when they are no longer used and useful;
2. Removal of all power plant site facilities and related facilities;

3. Measures to restore wildlife habitat to promote the re-establishment of native plant and wildlife species; and
4. Revegetation of the plant site and other disturbed areas utilizing appropriate seed mixture, if these areas are not returned to agricultural production.

**Verification:** At least 12 months prior to commencement of closure activities, the project owner shall address all biological resources related issues associated with facility closure in a Biological Resources Element. The Biological Resources Element shall be incorporated into the Facility Closure Plan and the BRMIMP and include a complete discussion of the local biological resources and proposed facility closure mitigation measures.

**Streambed Alteration Agreement**

**BIO-7** The project owner shall submit a Streambed Alteration Agreement Notification to the CDFG (per Section 1600 of the Fish and Game Code) and incorporate the biological resource related terms and conditions into the project's BRMIMP.

**Verification:** At least 30 days prior to the start of gas pipeline mobilization activities the project owner shall submit to the CPM a copy of the final CDFG Streambed Alteration Agreement Notification.

**Regional Water Quality Control Board Certification**

**BIO-8** The project owner shall acquire the Regional Water Quality Control Board Section 401 state Clean Water Act certification, and incorporate the biological resource related terms and conditions into the project's BRMIMP.

**Verification:** At least 30 days prior to the start of gas pipeline mobilization activities, the project owner shall provide the CPM with a copy of the final Regional Water Quality Control Board certification.

**U. S. Army Corps of Engineers Section 404 Permit**

**BIO-9** The project owner shall provide a final copy of the U.S. Army Corps of Engineers Section 404 of the federal Clean Water Act permit. The biological resources related terms and conditions contained in the permit shall be incorporated into the project's BRMIMP.

**Verification:** At least 30 days prior to the start of gas pipeline mobilization activities, the project owner shall submit to the CPM a copy of the U.S. Army Corps of Engineers permit.

**Preventative Design Mitigation Features**

**BIO-10** The project owner shall modify the project design to incorporate all feasible measures that avoid or minimize impacts to the local biological resources.

Protocol:

1. Design transmission line poles, access roads, pulling sites, and storage and parking areas to avoid identified sensitive resources;

2. Design and construct transmission lines and all electrical components to reduce the likelihood of electrocutions of large birds (meet or exceed the clearances specified in APLIC 1994 and 1996 standards and provide insulation or molding around the ground bonding wires for the transmission poles);

3. Provide safety lighting that points downward; and

4. If the HRSG stacks are required to be lit, use either white or red strobe lights to reduce the collision risk of birds with the towers.

**Verification:** All mitigation measures and their implementation methods shall be included in the BRMIMP.

**Construction Mitigation Management to Avoid Harassment or Harm**

**BIO-11** The project owner shall manage the construction site and related facilities in a manner to avoid or minimize impacts to the local biological resources. The project owner shall:

1. Temporarily fence and provide wildlife escape ramps for construction areas that contain steep walled holes or trenches if outside of an approved, permanent exclusionary fence;
2. Make certain all food-related trash is disposed in closed containers and removed at least once a week. Feeding of wildlife shall be prohibited;
3. Prohibit non-security related firearms or weapons from being brought to the site;
4. Prohibit pets from being brought to the site;
5. Report all inadvertent deaths of sensitive species to the appropriate project representative. Injured animals shall be reported to CDFG

and the project owner shall follow instructions that are provided by CDFG;

6. Conduct additional preconstruction surveys for sensitive species in potential impact areas during the spring before construction begins;
7. Restore all areas not required for permanent easements and development to preconstruction conditions, including topography, hydrology, topsoil and, if appropriate, revegetation that focuses on erosion control; and
8. Use a trenchless construction method (HDD or jack-and-bore) or cross Lateral No. 5 during the dry season;

**Verification:** All mitigation measures and their implementation methods shall be included in the BRMIMP.

## B. CULTURAL RESOURCES

The potential for impacts to cultural resources is related to whether such resources are present and whether they would actually be encountered during project development and construction activities. Cultural resource materials such as artifacts, structures, or land modifications reflect the history of human development. Certain places that are important to Native Americans or local national/ethnic groups are also considered valuable cultural resources. Analysis in this topic pertains to the structural and cultural evidence of human development in the project vicinity, and appropriate mitigation measures should cultural resources be disturbed by project excavation and construction.

The term “cultural resource” is used broadly to include the following categories of resources: buildings, sites, structures, objects, and historic districts. When a cultural resource is determined to be significant, it is eligible for inclusion in the California Register of Historic Resources (CRHR). (Pub. Resources Code, § 5024.1; Cal. Code of Regs., tit. 14 § 4850 et seq.) An archaeological resource that does not qualify as an historic resource may be considered a “unique” archaeological resource under CEQA. (*See* Pub. Resources Code, § 21083.2.) In addition, structures older than 50 years (or less if the resource is deemed exceptional) can be considered for listing as significant historic structures. Since there is often a five year lag between resource evaluation and the date that eligibility is decided, cultural resources specialists may use 45 years as a criterion for considering potential eligibility.

Although a degree of uncertainty existed in this discipline in the Preliminary Staff Assessment, these matters had been resolved and the evidence presented at the evidentiary hearing was uncontroverted. (8/25/03 RT 28-30.)

**SUMMARY AND DISCUSSION OF THE EVIDENCE**

The TID project is situated in the Northern San Joaquin Valley with the San Joaquin River to the west, the Tuolumne River to the north, and the Merced River to the south. The upper San Joaquin Valley, south of Stockton, is one of the least investigated areas in California. There is little information regarding Native American groups in the Turlock area. Spanish exploration and settlement occurred in this area. Fur trappers, gold miners, and others also traversed and settled here. (Ex. 11, pp. 4.3-4 to 4.3-6.)

The Applicant conducted a literature search for a one-mile area around the project site and linear facilities, and performed a pedestrian survey of the proposed power plant site, laydown and parking area, and linear routes. No archeological resources were identified. (Exs. 1, 2, 6, 7, 8; Ex. 11, pp. 4.3-7 to 4.3-8, 4.3-11.)

The evidence indicates that there are 33 historical buildings or structures within or adjacent to the project area and linear components. None of the buildings identified in the survey appear to contain information sufficient to meet the eligibility requirements for the California Register of Historic Resources. Moreover, seventeen of these buildings do not retain sufficient integrity to meet the requirements for eligibility under the criteria applicable. There is insufficient information to determine whether the remaining buildings meet the eligibility requirements. (Ex. 11, pp. 4.3-11 to 4.3-12.)

The proposed project would change the setting, feeling, and association for other buildings. The evidence indicates, however, that the setting has already been altered by the existing Foster Farms silos, the cheese factory, other silos in the area, new commercial buildings, and the in-filling of the area with more recent residences and structures. Therefore, the evidence shows that the change in

setting attributable to the power plant would not significantly alter the resources' eligibility for consideration as historical resources. (Ex. 11, pp. 4.3-11 to 4.3-12.)

Three buildings could, however, be impacted by the construction of the gas pipeline. The Applicant has indicated that the pipeline would either be in franchise county road, or that PG&E will obtain private easements. (Ex. 11, p. 4.3-17.) In either case, the evidence shows that PG&E does not intend to route the pipeline so that it would interfere with any dwellings. Although areas for stockpiling of trench spoils, laydown areas, and other ancillary areas have not been identified, the evidence indicates that it is unlikely that these activities would adversely impact the structures especially since condition **CUL-6** requires notification if known resources would be impacted in a previously unanticipated manner. (Ex. 11, p. 4.3-12.)

The overall TID canal system could be eligible for inclusion in the CRHR because of its association with the locally important TID. Furthermore, Canal Lateral No. 5 may be eligible for the CRHR as an example of the open canals that characterize the irrigation infrastructure. The natural gas pipeline would cross the canal near the intersection of South Commons Road and Harding Road. The construction would be open cut during the dry season or by jack and bore or directional drilling during the wet season. If jack and bore or directional drilling is used, there should be no impact to the lateral. If the construction occurs during the dry season and the open cut method of construction is used, the canal would be cut by trenching. However, removal of a small portion of the concrete and repairing it would not change any of the original materials. (Ex. 11, p. 4.3-12.)

Although the project is not expected to adversely impact cultural resources, full-time monitoring by an archaeologist during initial construction activities will ensure that any cultural resources encountered will be identified and evaluated before significant impacts can occur. In the event of an unanticipated discovery, implementation of Conditions of Certification **CUL-1** through **CUL-7** will reduce

impacts to any archaeological resource identified to a level of insignificance and the mitigation measures contained in the Conditions of Certification will ensure that all potential impacts are rendered less than significant. (Ex. 11, pp. 4.3-15 to 4.3-17.)

**FINDINGS AND CONCLUSIONS**

Based on the uncontroverted evidence of record, the Commission makes the following findings and reaches the following conclusions:

1. No known cultural resources exist in the general project area.
2. Construction activities associated with the WEC project and related facilities present the greatest potential for adverse impacts to cultural resources.
3. The potential for impacts to unknown cultural resources may not be discovered until subsurface soils are exposed during excavation and construction.
4. The project owner will obtain the services of a Native American monitor to observe ground disturbance activities in areas where Native American artifacts are discovered.
5. The project owner will provide a cultural resources monitor with authority to halt construction if unknown resources are discovered.
6. The potential for cumulative impacts to cultural resources is insignificant.
7. The mitigation measures contained in the Conditions of Certification below ensure that any direct, indirect, or cumulative adverse impacts to cultural resources resulting from project-related activities will be insignificant.

The Commission therefore concludes that with implementation of the Conditions of Certification below, the project will conform with all applicable laws, ordinances, regulations, and standards relating to cultural resources as set forth in the pertinent portion of **Appendix A** of this Decision.

## CONDITIONS OF CERTIFICATION

**CUL-1** Prior to the start of ground disturbance, the project owner shall obtain the services of a **Cultural Resources Specialist (CRS)** and one or more alternates, if alternates are needed, to manage all monitoring, mitigation, and curation activities. The CRS may elect to obtain the services of **Cultural Resource Monitors (CRMs)** and other technical specialists, if needed, to assist in monitoring, mitigation, and curation activities. The project owner shall ensure that the CRS evaluates any cultural resources that are newly discovered or that may be affected in an unanticipated manner for eligibility to the California Register of Historic Resources (CRHR). No ground disturbance shall occur prior to CPM approval of the CRS, unless specifically approved by the CPM.

### CULTURAL RESOURCES SPECIALIST

The resume for the CRS and alternate(s) shall include information demonstrating that the minimum qualifications specified in the U.S. Secretary of Interior Guidelines, as published in the Code of Federal Regulations, 36 CFR Part 61, are met. In addition, the CRS shall have the following qualifications:

1. The technical specialty of the CRS shall be appropriate to the needs of the project and shall include a background in anthropology, archaeology, history, architectural history, or a related field; and
2. At least three years of archeological or historic, as appropriate, resource mitigation and field experience in California.

The resume of the CRS shall include the names and telephone numbers of contacts familiar with the work of the CRS on referenced projects, and shall demonstrate that the CRS has the appropriate education and experience to accomplish the cultural resource tasks that must be addressed during ground disturbance, grading, construction, and operation. In lieu of the above requirements, the resume shall demonstrate to the satisfaction of the CPM that the proposed CRS or alternate has the appropriate training and background to effectively implement the Conditions of Certification.

### CULTURAL RESOURCES MONITOR

CRMs shall have the following qualifications:

1. a BS or BA degree in anthropology, archaeology, historic archaeology, or a related field and one year experience monitoring in California; or

2. an AS or AA degree in anthropology, archaeology, historic archaeology, or a related field and four years experience monitoring in California; or

3. enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historic archaeology, or a related field and two years of monitoring experience in California.

**CULTURAL RESOURCES TECHNICAL SPECIALISTS**

The resume(s) of any additional technical specialists (e.g., historic archeologist, historian, architectural historian, physical anthropologist) necessary to assist the CRS with determinations of eligibility or required analysis shall be submitted to the CPM for approval. The technical specialist shall meet the Secretary of Interior's Professional Standards for that technical area and work under the direction of the CRS.

**Verification:** The project owner shall submit the resume for the CRS, and alternate(s) if desired, to the CPM for review and approval at least 45 days prior to the start of ground disturbance.

At least 10 days prior to a termination or release of the CRS, the project owner shall submit the resume of the proposed new CRS to the CPM for review and approval.

At least 20 days prior to ground disturbance, the CRS shall provide a letter naming anticipated CRMs for the project and stating that the identified CRMs meet the minimum qualifications for cultural resource monitoring required by this condition. If additional CRMs are obtained during the project, the CRS shall provide additional letters to the CPM identifying the CRMs and attesting to the qualifications of the CRM at least 5 days prior to the CRM beginning on-site duties. At least 10 days prior to beginning tasks, the resume(s) of any additional technical specialists shall be provided to the CPM for review and approval.

At least 10 days prior to the start of ground disturbance, the project owner shall confirm in writing to the CPM that the approved CRS will be available for on-site work and is prepared to implement the cultural resources Conditions of Certification.

**CUL-2** Prior to the start of ground disturbance, the project owner shall provide the CRS and the CPM with maps and drawings showing the footprint of the power plant and all linear facilities. Maps shall include the appropriate USGS quadrangles and a map at an appropriate scale (e.g., 1:2000 or 1" = 200') for plotting individual artifacts. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the CRS and CPM. The CPM shall review submittals and, in consultation with the CRS, approve those that are appropriate for use in cultural resources planning activities.

If construction of the project would proceed in phases, maps and drawings not previously provided shall be submitted prior to the start of each phase. Written notification identifying the proposed schedule of each project phase shall be provided to the CRS and CPM.

At a minimum, the CRS shall consult weekly with the project construction manager to confirm area(s) to be worked during the next week, until ground disturbance is completed.

The project owner shall notify the CRS and CPM of any changes to the scheduling of the construction phases. No ground disturbance shall occur prior to CPM approval of maps and drawings, unless specifically approved by the CPM.

**Verification:** The project owner shall submit the subject maps and drawings at least 40 days prior to the start of ground disturbance. The CPM will review submittals in consultation with the CRS and approve maps and drawings suitable for cultural resources planning activities.

If there are changes to any project related footprint, revised maps and drawings shall be provided at least 15 days prior to start of ground disturbance for those changes.

If project construction is phased, if not previously provided, the project owner shall submit the subject maps and drawings 15 days prior to each phase.

A current schedule of anticipated project activity shall be provided to the CRS on a weekly basis during ground disturbance and also provided in each Monthly Compliance Report (MCR).

The project owner shall provide written notice of any changes to scheduling of construction phases within 5 days of identifying the changes.

**CUL- 3**

a) Cultural resource monitoring shall be conducted starting with initial ground disturbance. The potential for encountering buried deposits shall be assessed by the CRS based on the observations made during initial ground disturbance and grading. The initial assessment shall prescribe the type (intermittent to full-time) and duration for monitoring of ground disturbance within the plant site.

b) The cultural resource monitoring shall continue until the CRS determines that no cultural resources will be impacted.

c) Monitors shall keep a daily log of any monitoring or cultural resource activities and the CRS shall prepare a weekly summary report on the progress or status of cultural resources-related activities. The CRS may informally discuss cultural resource monitoring and mitigation activities with Energy Commission technical staff.

d) The CRS shall notify the project owner and the CPM, by telephone or e-mail, of any incidents of non-compliance with any cultural resources Conditions of Certification within 24 hours of becoming aware of the situation. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the Conditions of Certification.

e) Cultural resources monitoring activities are the responsibility of the CRS. Any interference with monitoring activities, removal of a monitor from duties assigned by the CRS, or direction to a monitor to relocate monitoring activities by anyone other than the CRS shall be considered non-compliance with these Conditions of Certification.

f) A Native American monitor shall be obtained to monitor ground disturbance in areas where Native American artifacts are discovered. The Native American monitor shall be at the site prior to and during the resumption of activities in the area of the discovery. Informational lists of concerned Native Americans and guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that will be monitored.

**Verification:** Within 5 days after the initial groundbreaking and excavation, the CRS or alternate CRS will provide a letter (electronic or paper) to the CPM for approval, and to the project owner, describing the initial groundbreaking observations, including the type (intermittent to full-time) and duration of cultural resources monitoring.

During the ground disturbance phases of the project, the project owner shall include in the Monthly Compliance Report (MCR) copies of the weekly summary reports prepared by the CRS regarding project-related cultural resources monitoring. Copies of daily logs shall be retained and made available for audit by the CPM as needed.

Within 24 hours of recognition of a non-compliance issue, the CRS shall notify the CPM by telephone of the problem and of steps being taken to resolve the problem. The telephone call shall be followed by an e-mail or fax detailing the non-compliance issue and the measures necessary to achieve resolution of the issue. Daily logs shall include forms detailing any instances of non-compliance with Conditions of Certification. In the event of a non-compliance issue, a report written no sooner than two weeks after resolution of the issue that describes the

issue, resolution of the issue, and the effectiveness or the resolution measures shall be provided in the next MCR.

If Native American artifacts are found, the project owner shall send notification to the CPM identifying the person(s) retained to conduct Native American monitoring. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM who will initiate a resolution process.

**CUL-4** The project owner shall submit the Cultural Resources Report (CRR) to the CPM for approval. The CRR shall be written by the CRS and shall be provided in the ARMR format. The CRR shall report on all field activities including dates, times, locations, findings, samplings, and analysis. All survey reports, Department of Parks and Recreation (DPR) 523 forms, and additional research reports not previously submitted to the California Historic Resource Information System (CHRIS) and the State Historic Preservation Officer (SHPO) shall be included as an appendix to the CRR.

**Verification:** The project owner shall submit the CRR within 90 days after completion of ground disturbance (including landscaping). Within 10 days after CPM approval, the project owner shall provide documentation to the CPM that copies of the CRR have been provided to the SHPO, the CHRIS, and the curating institution (if archeological materials were collected).

**CUL-5** Prior to and for the duration of ground disturbance, the project owner shall provide Worker Environmental Awareness Program (WEAP) training to all new workers within the worker's first week of employment. The training may be presented in the form of a video. The training shall include:

a) A discussion of applicable laws and penalties under the law;

b) Samples or visuals of artifacts that might be found in the project vicinity;

c) Information that the CRS, alternate CRS, and CRMs have the authority to halt construction to the degree necessary, as determined by the CRS, in the event of a discovery or unanticipated impact to a cultural resource;

d) Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery, shall contact their supervisor and the CRS or CRM, and that redirection of work will be determined by the construction supervisor and the CRS;

e) An informational brochure that identifies reporting procedures in the event of a discovery;

f) An acknowledgement form signed by each worker indicating that the worker has received the training; and

g) A sticker that shall be placed on hard hats indicating that environmental training has been completed.

No ground disturbance shall occur prior to implementation of the WEAP program unless specifically approved by the CPM.

**Verification:** The project owner shall provide in the Monthly Compliance Report the WEAP Certification of Completion form of persons who have completed the training in the prior month and a running total of all persons who have completed training to date.

**CUL-6** The project owner shall grant authority to halt construction to the CRS, alternate CRS, and the CRMs in the event previously unknown cultural resource sites or materials are encountered, or if known resources may be impacted in a previously unanticipated manner (discovery). Redirection of ground disturbance shall be accomplished under the direction of the construction supervisor in consultation with the CRS.

In the event cultural resources are found or impacts can be anticipated, the halting or redirection of construction shall remain in effect until all of the following have occurred:

- The CRS has notified the project owner, and the CPM has been notified within 24 hours of the discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning. The notification shall include a description of the discovery (or changes in character or attributes), the action taken (i.e. work stoppage or redirection), and a recommendation of eligibility and recommendations for mitigation of any cultural resources discoveries whether or not a determination of significance has been made;
- The CRS, the project owner, and the CPM have conferred and determined what, if any, data recovery or other mitigation is needed; and
- Any necessary data recovery and mitigation has been completed.

**Verification:** At least 30 days prior to the start of ground disturbance, the project owner shall provide the CPM and CRS with a letter confirming that the CRS, alternate CRS, and CRMs have the authority to halt construction activities in the vicinity of a cultural resource discovery, and that the project owner shall ensure that the CRS notifies the CPM within 24 hours of a discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning.

**CUL-7** Following the filing of the CPM-approved CRR with the curation facility and the appropriate agencies described in **CUL-4**, the project owner shall ensure that all cultural resource materials, maps, and data collected during data recovery and mitigation are delivered to the curation

facility (that meets the U.S. Secretary of Interior requirements for the curation of cultural resources). The project owner shall pay any required curation fees.

**Verification:** The project owner shall ensure that all recovered cultural resource materials are delivered for curation within 30 days after filing the CPM-approved CRR.

For the life of the project, the project owner shall maintain in its compliance files copies of signed contracts or agreements with the curation facility.

## C. GEOLOGY AND PALEONTOLOGY

This section reviews the project's potential impacts on significant geological and paleontological resources. It also evaluates whether project-related activities could result in exposure to geological hazards, whether the facility can be designed and constructed to avoid any such hazards, and whether geologic or mineralogic resources are present. The analysis of record also examines whether fossilized remains or trace remnants of prehistoric plants or animals are present. The parties did not dispute any matters in this discipline.[19] (8/25/03 RT 30-32.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The WEC project is located within the Central Valley geomorphic province. This area is characterized by gently sloping alluvial fans formed by outwash from rivers and streams. Exploration adjacent to the plant site generally encountered silty sand, poorly granded sand, and minor silt and clayey sand. (Ex. 11, p. 5.2-2.) The evidence shows that there are no identified geologic or mineralogic resources of recreational or scientific value in the project vicinity.

Earthquakes could pose a risk of liquefaction or dynamic compaction to soils in the area. However, the project site is in a seismically stable area. The closest known active fault is the Great Valley Thrust Fault System, located approximately 21 miles west of the site. The project vicinity is designated as a California UBC Seismic Zone 3. The generating facility and all of the associated linear facilities will be designed and constructed in accordance with standards appropriate to this zone. This will reduce the impact of strong seismic ground shaking or seismic-related ground failure, including liquefaction, to a less than a significant level. (Ex. 11, pp. 5.2-4, 5.2-6.)

[19] Applicant suggested minor changes to a Condition of Certification (Ex. 45, pp. 19-20; 8/25/03 RT 31-32); we have incorporated them.

Paleontologic resource sensitivity is high for the project area and associated linear facilities. The evidence indicates that paleosol (fossil soil) containing ichnofossils (root and burrow casts and molds) is present within the uppermost Modesto Formation less than one-half mile from the plant site. Although no previously reported fossils are known to directly underlie the proposed plant site or the right-of-way for any of its linear facilities, the presence of previously recorded fossil sites in stratigraphic units suggests that there is a high potential for additional similar fossil remains to be uncovered by project-related excavations. (Ex. 3, p. 18; Ex. 11, p. 5.2-6.)

The evidence establishes that should any unique paleontological resources be encountered during construction, implementation of the monitoring and mitigation measures contained in Conditions of Certification **PAL-1** through **PAL-7** will reduce project impacts to less than significant levels. (Ex. 11, p. 5.2-6.)

**FINDINGS AND CONCLUSIONS**

Based on the uncontroverted evidence of record, we make the following findings and reach the following conclusions:

1. The project is located in Seismic Zone 3.

2. The project will be designed to withstand earthquake shaking in accordance with the requirements for Seismic Zone 3 established in the California Building Code.

3. There are no known significant geologic or mineralogic resources in the project area.

4. The project area and associated linear facilities have a high sensitivity for paleontologic resources.

5. The Conditions of Certification will ensure that activities associated with construction and operation of the project will cause no significant adverse impacts to geological or paleontological resources.

6. The Conditions of Certification are sufficient to ensure that the project complies with all applicable laws, ordinances, regulations, and standards identified in the appropriate portion of **Appendix A** of this Decision.

We therefore conclude that the project will not cause any significant adverse direct, indirect, or cumulative impacts to geological, mineralogic, or paleontological resources.

## CONDITIONS OF CERTIFICATION

General Conditions of Certification with respect to Geology are covered under Conditions of Certification **GEN-1**, **GEN-5**, and **CIVIL-1** in the **Facility Design** section and include **GEO-1** below. Paleontological Conditions of Certification **PAL-1 through PAL-7** follow.

**GEO-1** The Soils Engineering Report required by the 2001 CBSC Appendix Chapter 33, Section 3309.5 Soils Engineering Report, shall specifically include data regarding the liquefaction and dynamic compaction potential of site soils. The liquefaction analysis shall be implemented by following the recommended procedures contained in *Recommended Procedures for Implementation of California Division of Mines and Geology Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction Hazards in California,* dated March 1999.

**Verification:** The project owner shall include in the application for a grading permit a copy of the Soils Engineering Report which describes the collapse, expansion, and liquefaction potential of the site foundation soils and a summary of how the results of the analyses were incorporated into the project foundation and grading plan design for review and comment by the Chief Building Official (CBO).

**PAL-1** The project owner shall provide the CPM with the resume and qualifications of its Paleontological Resource Specialist (PRS) for review and approval. If the approved PRS is replaced prior to completion of project mitigation and submittal of the Paleontological Resources Report, the project owner shall obtain CPM approval of the replacement PRS. The project owner shall submit to the CPM, to keep on file, resumes of the qualified Paleontological Resource Monitors

(PRMs). If a PRM is replaced, the resume of the replacement PRM shall also be provided to the CPM.

The PRS resume shall include the names and phone numbers of references. The resume shall also demonstrate to the satisfaction of the CPM the appropriate education and experience to accomplish the required paleontological resource tasks.

As determined by the CPM, the PRS shall meet the minimum qualifications for a vertebrate paleontologist as described in the Society of Vertebrate Paleontology (SVP) guidelines of 1995. The experience of the PRS shall include the following:

a. institutional affiliations, appropriate credentials and college degree, ability to recognize and collect fossils in the field;

b. local geological and biostratigraphic expertise;

c. proficiency in identifying vertebrate and invertebrate fossils; and

d. the PRS shall have at least three years of paleontological resource mitigation and field experience in California, and at least one year of experience leading paleontological resource mitigation and field activities.

The project owner shall ensure that the PRS obtains qualified paleontological resource monitors to monitor as he or she deems necessary on the project. Paleontologic resource monitors (PRMs) shall have the equivalent of the following qualifications:

- BS or BA degree in geology or paleontology and one year experience monitoring in California; or

- AS or AA in geology, paleontology, or biology and four years experience monitoring in California; or

- Enrollment in upper division classes pursuing a degree in the fields of geology or paleontology and two years of monitoring experience in California.

**Verification:** At least 60 days prior to the start of ground disturbance, the project owner shall submit a resume and statement of availability of its designated PRS for on-site work.

At least 20 days prior to ground disturbance, the PRS or project owner shall provide a letter with resumes naming anticipated monitors for the project and stating that the identified monitors meet the minimum qualifications for paleontological resource monitoring required by the condition. If additional monitors are obtained during the project, the PRS shall provide additional letters

and resumes to the CPM. The letter shall be provided to the CPM no later than one week prior to the monitor beginning on-site duties.

Prior to the termination or release of a PRS, the project owner shall submit the resume of the proposed new PRS to the CPM for review and approval.

**PAL-2** The project owner shall provide to the PRS and the CPM, for approval, maps and drawings showing the footprint of the power plant, construction laydown areas, and all related facilities. Maps shall identify all areas of the project where ground disturbance is anticipated. If the PRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the PRS and CPM. The site grading plan and the plan and profile drawings for the utility lines will normally be acceptable for this purpose. The plan drawings shall show the location, depth, and extent of all ground disturbances and may be of such a scale that 1 inch = 40 feet to 1 inch = 100 feet range. If the footprint of the power plant or linear facility changes, the project owner shall provide maps and drawings reflecting these changes to the PRS and CPM.

If construction of the project will proceed in phases, maps and drawings may be submitted prior to the start of each phase. A letter identifying the proposed schedule of each project phase shall be provided to the PRS and CPM. Prior to work commencing on affected phases, the project owner shall notify the PRS and CPM of any construction phase scheduling changes.

At a minimum, the project owner shall ensure that the PRS or PRM consults weekly with the project superintendent or construction field manager to confirm area(s) to be worked during the next week, until ground disturbance is completed.

**Verification:** At least 30 days prior to the start of ground disturbance, the project owner shall provide the maps and drawings to the PRS and CPM.

If there are changes to the footprint of the project, revised maps and drawings shall be provided to the PRS and CPM at least 15 days prior to the start of ground disturbance.

If there are changes to the scheduling of the construction phases, the project owner shall submit a letter to the CPM within 5 days of identifying the changes.

**PAL-3** The project owner shall ensure that the PRS prepares, and the project owner submits to the CPM for review and approval, a Paleontological Resources Monitoring and Mitigation Plan (PRMMP) to identify general and specific measures to minimize potential impacts to significant paleontological resources. Approval of the PRMMP by the CPM shall

occur prior to any ground disturbance. The PRMMP shall function as the formal guide for monitoring, collecting, and sampling activities, and may be modified with CPM approval. This document shall be used as a basis for discussion in the event that on-site decisions or changes are proposed. Copies of the PRMMP shall reside with the PRS, each monitor, the project owner's on-site manager, and the CPM.

The PRMMP shall be developed in accordance with the guidelines of the Society of the Vertebrate Paleontology (SVP, 1995) and shall include, but not be limited to, the following:

a. Assurance that the performance and sequence of project-related tasks such as any literature searches, pre-construction surveys, worker environmental training, fieldwork, flagging or staking, construction monitoring, mapping and data recovery, fossil preparation and collection, identification and inventory, preparation of final reports, and transmittal of materials for curation will be performed according to the PRMMP procedures;

b. Identification of the person(s) expected to assist with each of the tasks identified within the PRMMP and the Conditions of Certification;

c. A thorough discussion of the anticipated geologic units expected to be encountered, the location and depth of the units relative to the project when known, and the known sensitivity of those units based on the occurrence of fossils either in that unit or in correlative units;

d. A discussion of the locations of where the monitoring of project construction activities is deemed necessary, and a proposed schedule for the monitoring and sampling;

e. A discussion of the procedures to be followed in the event of a significant fossil discovery, halting construction, resuming construction, and how notifications will be performed;

f. A discussion of equipment and supplies necessary for collection of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits;

g. Procedures for inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum which meets the Society of Vertebrate Paleontology standards and requirements for the curation of paleontological resources;

h. Identification of the institution that has agreed to receive any data and fossil materials collected, requirements or specifications for materials delivered for curation and how they will be met, and the name and phone number of the contact person at the institution; and

i. A copy of the paleontological Conditions of Certification.

**Verification:** At least (30) days prior to ground disturbance, the project owner shall provide a copy of the PRMMP to the CPM. The PRMMP shall include an affidavit of authorship by the PRS, and acceptance of the PRMMP by the project owner evidenced by a signature.

**PAL-4** Prior to ground disturbance and for the duration of construction, the project owner and the PRS shall prepare and conduct weekly CPM-approved training for all recently employed project managers, construction supervisors, and workers who are involved with or operate ground disturbing equipment or tools. Workers shall not excavate in sensitive units prior to receiving CPM-approved worker training. Worker training shall consist of an initial in-person PRS training during the project kick-off for those mentioned above. Following initial training, a CPM-approved video or in-person training may be used for new employees. The training program may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or any other areas of interest or concern.

The Worker Environmental Awareness Program (WEAP) shall address the potential to encounter paleontological resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources.

The training shall include:

a) A discussion of applicable laws and penalties under the law;

b) Good quality photographs or physical examples of vertebrate fossils shall be provided for project sites containing units of high sensitivity;

c) Information that the PRS or PRM has the authority to halt or redirect construction in the event of a discovery or unanticipated impact to a paleontological resource;

d) Instruction that employees are to halt or redirect work in the vicinity of a find and to contact their supervisor and the PRS or PRM;

e) An informational brochure that identifies reporting procedures in the event of a discovery;

f) A Certification of Completion of WEAP form signed by each worker indicating that they have received the training; and

g) A sticker that shall be placed on hard hats indicating that environmental training has been completed.

**Verification:** At least 30 days prior to ground disturbance, the project owner shall submit the proposed WEAP, including the brochure with the set of reporting procedures the workers are to follow.

If the project owner is planning on preparing a video at the initial training for use in interim training, the video shall be provided to the CPM for review and approval within 7 days of the first training. Any revised videos shall be submitted for CPM review and approval within 7 days of the receipt of response from the CPM.

If an alternate paleontological trainer is requested by the project owner, the resume and qualifications of the trainer shall be submitted to the CPM for review and approval prior to installation of an alternate trainer. Alternate trainers shall not conduct training prior to CPM authorization.

In the Monthly Compliance Report (MCR) the project owner shall provide copies of the WEAP Certification of Completion forms with the names of those trained and the trainer or type of training offered that month. A sample copy is included as Attachment A hereto.

**PAL-5** The project owner shall ensure that the PRS and PRM(s) monitor, consistent with the PRMMP, all construction-related grading, excavation, trenching, and augering in areas where potentially fossil-bearing materials have been identified. In the event that the PRS determines full time monitoring is not necessary in locations that were identified as potentially fossil-bearing in the PRMMP, the project owner shall notify and seek the concurrence of the CPM.

The project owner shall ensure that the PRS and PRM(s) have the authority to halt or redirect construction if paleontological resources are encountered. The project owner shall ensure that there is no interference with monitoring activities unless directed by the PRS. Monitoring activities shall be conducted as follows:

a. Any significant change of monitoring different from the accepted schedule presented in the PRMMP shall be included in the monthly compliance report or email, whenever it is known, and prior to the change in monitoring that differs from the monitoring proposed in the PRMMP. The letter or email shall include the justification for the change in monitoring.

b. The project owner shall ensure that the PRM(s) keeps a daily log of monitoring of paleontological resource activities. The PRS may informally discuss paleontological resource monitoring and mitigation activities with the CPM at any time.

c. The project owner shall ensure that the PRS notifies the project owner and the CPM within 24 hours of the occurrence of any

incidents of non-compliance with any paleontological resources Conditions of Certification. The PRS shall recommend corrective action to resolve the issues or achieve compliance with the Conditions of Certification.

d. The project owner shall notify the CPM within 24 hours (or Monday morning in the case of a weekend) of any significant paleontological find resulting in a halt of construction activities.

The project owner shall ensure that the PRS prepares a summary of the monitoring and other paleontological activities that will be placed in the Monthly Compliance Reports (MCR). The summary will include the name(s) of the PRS or PRM(s) active during the month, general descriptions of training and monitored construction activities, and general locations of excavations, grading, etc. A section of the report will include: the geologic units or subunits encountered; descriptions of sampling within each unit; and a list of fossils identified. A final section of the report will address any issues or concerns about the project relating to paleontologic monitoring including any incidents of non-compliance and any changes to the monitoring plan that have been approved by the CPM. If no monitoring took place during the month, the project owner shall include an explanation in the summary as to why monitoring was not conducted.

**Verification:** The project owner shall ensure that the PRS submits the summary of monitoring and paleontological activities in the MCR. When feasible, the CPM shall be notified 10 days in advance of any proposed changes in monitoring different from the plan identified in the PRMMP. This notice can occur in the MCR or in an email to the CPM. If there is any unforeseen change in monitoring, the notice shall be given as soon as possible prior to implementation of the change.

**PAL-6** The project owner, through the designated PRS, shall ensure that all components of the PRMMP are adequately performed including collection of fossil materials, preparation of fossil materials for analysis, analysis of fossils, identification and inventory of fossils, the preparation of fossils for curation, and the delivery for curation of all significant paleontological resource materials encountered and collected during the project construction.

**Verification:** The project owner shall maintain in its compliance file copies of signed contracts or agreements with the designated PRS and other qualified research specialists. The project owner shall maintain these files for a period of 3 years after completion and approval of the CPM-approved Paleontological Resource Report (See **PAL-7**). The project owner shall be responsible to pay any curation fees charged by the museum for fossils collected and curated as a result of paleontological mitigation. A copy of the letter of transmittal submitting the fossils to the curating institution shall be provided to the CPM.

**PAL-7** The project owner shall ensure preparation of a Paleontological Resources Report (PRR) by the designated PRS. The PRR shall be prepared following completion of the ground disturbing activities. The PRR shall include an analysis of the collected fossil materials and related information, and shall be submitted to the CPM for review and approval.

The report shall include, but is not limited to: a description and inventory of recovered fossil materials; a map showing the location of paleontological resources encountered; determinations of sensitivity and significance; and a statement by the PRS that project impacts to paleontological resources have been mitigated.

**Verification:** Within 90 days after completion of ground disturbing activities, including landscaping, the project owner shall submit the Paleontological Resources Report under confidential cover to the CPM.

## ATTACHMENT A

WALNUT ENERGY CENTER (02-AFC-4) Environmental Awareness Program

This is to certify these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on Cultural, Paleontology and Biological Resources for all personnel (i.e. construction supervisors, crews and plant operators) working on-site or at related facilities. By signing below, the participant indicates that they understand and shall abide by the guidelines set forth in the Program materials. Please include this completed form in the Monthly Compliance Report.

| No. | Employee Name | Company | Signature |
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Cul Trainer: _____ Signature:_____ Date: ___/___/____
PaleoTrainer: _____ Signature:_____ Date: ___/___/____
Bio Trainer: _____ Signature:_____ Date: ___/___/____

## D. SOIL AND WATER RESOURCES

This section focuses on the soil and water resources associated with the project, specifically the project's potential to induce erosion and sedimentation, adversely affect water supplies, and degrade water quality. The analysis also considers the potential cumulative impacts to water quality in the project vicinity. To prevent or reduce any potential adverse impacts, several mitigation measures are included in the Conditions of Certification to ensure that the project will comply with all applicable federal, state, and local laws, ordinances, regulations, and standards.

Applicant and Staff initially contested the contents of various conditions. By the time of the third evidentiary hearing in October, however, the parties had resolved their differences. We have incorporated the conditions reflecting this resolution. (10/9/03 RT 5-9; Exs. 11, 45, 47, 55.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Soil Resources

The WEC project will create both temporary and permanent land disturbances. Construction of the power plant, laydown area, and associated facilities will disturb approximately 125 acres. The predominant uses in this area include agriculturally-related processing facilities (dairies, related milk/cheese processing facilities, and grain mills), agriculture, and scattered residences. To construct the site, 18 acres will be permanently cleared, graded, filled, and paved. Fifty-one acres will be used temporarily for a construction laydown, parking, and trailer area. This temporary use area will either be returned to agricultural production or developed at a later date.

Topsoil will be removed and stockpiled prior to placing fill and grading. The site will eventually be leveled to a grade of about two feet above the current elevation. The fill required will likely come from the unused portion of the parcel or from local supplies. Associated linear facilities will largely follow existing roads and be placed in existing utility rights-of-way. Transmission facilities will not prevent current land uses. (Ex. 11, pp. 4.8-15 to 4.8-16.)

Construction and operation will not fill or degrade any wetlands or waterways nor discharge any storm water off-site. The evidence shows that the water erosion hazard levels at the proposed site and along linear features are minimal (i.e., classified as no erosion hazard or slight erosion hazard). Given the nearly level topography, soil types, and the anticipated use of construction best management practices (BMPs), the overall potential for soil loss from water erosion is slight.

Based on the anticipated soil conditions, erosion by wind will require adequate controls with BMPs, including regular wetting of construction areas and soil stockpiles. Conditions of Certification **SOILS & WATER-1** and **SOILS & WATER-2** require that appropriate BMPs be used to prevent erosion or off-site sedimentation during construction. Condition **SOILS & WATER-3** ensures that no adverse impacts to soils will occur during operation. (Ex. 11, pp. 4.8-16 to 4.8-17.)

TID is required to file a Notice of Intent (NOI) with the State Water Resources Control Board (SWRCB) and comply with the provisions of the Nationwide General Storm Water Permit. In the NOI, TID will certify that it has or will prepare a Storm Water Pollution Prevention Plan (SWPPP) that incorporates BMPs and that TID will at all times operate to comply with the terms of the Plan. The SWRCB may reject the NOI if it is incomplete.

The Commission does not have approval authority for SWPPPs. Therefore, the mitigation plan must be a complete and comprehensive single document, as required by **SOILS&WATER-2,** that will address both temporary and permanent measures to avoid soil loss and degradation, groundwater contamination from the percolation of both wet and dry weather drainage at the site, and flooding issues. This plan may incorporate the SWPPP being used to satisfy the Board's requirements, but is not limited to those requirements. The plan will need to include appropriate monitoring and maintenance of the mitigation measures to ensure their effectiveness. Review and approval of this plan prior to start of construction will provide adequate certainty that appropriate mitigation is implemented during construction and continued through operation for the life of the project. (Ex. 45, p. 112; Ex. 47, pp. 20-21.)

The implementation of these measures ensures that potential impacts such as increased erosion, compaction, loss of soil productivity, and disturbance of saturated soils are prevented. Similarly, soil erosion that could increase the sediment load within surface waters downstream of the construction site will be avoided. (Ex. 45, pp. 82 to 85.)

2. Water Resources

During construction, the Applicant will use water from the existing well at the TID Walnut Substation. The average daily construction-related water demand will be 10,000 gal/day, with the peak daily demand about 100,000 gal/day when filling tanks and pipes for hydrostatic testing. The annual construction water demand is 2.6 million gallons (8 acre feet per year or "afy"). This amount is significantly less than the amount of water currently used at the site. (Ex. 11, p. 4.8-17.)

The WEC will require more than 1800 afy of water during operation. Water will be used for four principal purposes, based on the quality required: 1) water for the circulating or cooling water system; 2) service water for the plant, which

includes fire water and all other miscellaneous uses; 3) demineralized water for makeup to the HRSGs; and 4) potable water for drinking and lavatory use.

Approximately 97-98 percent of water use is for cooling purposes. Recycled, non potable water provided by the City of Turlock Wastewater Treatment Plant (WWTP) will be used for cooling and steam cycle make-up (83,333 gal/hr) once the facility has completed its tertiary, disinfected treatment improvements which are expected by May 2006.[20] Demineriliized water for makeup to the HRSGs will be obtained from the zero liquid discharge (ZLD) system, passed through a mixed bed ion exchange demineralizer, and then stored in an on-site tank (250,000 gallons).

After recycled water is delivered to the project, about 3 AFY of potable water will be used for drinking, showers, fire service, sanitary, and as back-up in the event of an unexpected interruption in recycled water delivery. A combination service/fire water storage tank will provide on-site potable water storage (total capacity of 250,000 gallons with 240,000 gallons reserved for fire service). This fire water storage will provide 2,000 gpm for 120 minutes. A second above ground storage tank for recycled water will store 500,000 gallons, a four hour supply. (Ex. 11, pp. 4.8-5 to 4.8-6.)

[20] The City is in the process of upgrading the WWTP to produce recycled water in conformance with California Code of Regulations, Title 22. The CVRWQCB has issued a Cease and Desist Order requiring the City to complete the necessary upgrades of its WWTP prior to May 31, 2006.

Soils & Water Table 1 briefly summarizes water uses and wastewater discharge for the WEC:

**Soils & Water Table 1**
**WEC Water Balance**

| Use | Average Day (mgd) | Peak Day (mgd) | Max Annual (AFY) |
|---|---|---|---|
| Cooling and Process | 1.4 | 2.0 | 1,800 |
| Potable | 0.002 | 0.002 | 3 |
| **Total Consumption (Net)** | **1.402** | **2.002** | **1,803** |
| Blowdown HRSG's | Recycled To Cooling Tower | Recycled To Cooling Tower | |
| Blowdown Cooling Tower | Recycled to ZLD | Recycled to ZLD | |
| Plant Drainage | Recycled to Cooling Tower | Recycled to Cooling Tower | |
| Brine Concentrator | Recycled to Cooling Tower & HRSG's | Recycled to Cooling Tower & HRSG's | |
| Sanitary Wastewater | 0.0005 | 0.0005 | To Leach Field |
| **Wastewater Discharged Off-site** | **0** | **0** | **0** |

**Notes:**
1. Blowdown from the cooling tower assumes 3.5 cycles of concentration.
2. Average flow rates reflect conditions at ambient 61 degrees and peak is at 97 degrees ambient.
Source: Ex. 11, p. 4.8-7.

The City of Turlock has provided a "will serve" letter to TID stating its willingness to serve the project with recycled water for cooling and process requirements, as well as with potable water for the interim period between the start of operation and the availability of recycled water. The WEC's average daily demand (1.4 mgd) will consume 14 percent of the expected recycled supply, will reduce demands on higher quality fresh water supplies, and will be relatively consistent. (Ex. 11, p. 4.8-21.) TID's use of recycled water meets the state's statutory requirements and policies for encouraging the protection of water quality, conservation of fresh inland water and the use of recycled water. The use of recycled water from the City's WWTP and will reduce effluent discharges by the WWTP that flow to San Joaquin River. (Ex. 11, p. 4.8-17.)

The City's potable water supply comes from groundwater in the confined aquifer. Groundwater resources in the Turlock Groundwater Basin are overdrafted and have necessitated the development of conservation programs and management

plans to protect high quality drinking water sources. Groundwater in the shallow aquifer is of poor quality in the vicinity of the project and some dewatering wells have been installed to lower groundwater levels below the root zone of crops. Increasing the pumping of groundwater in the higher quality middle aquifer can cause intrusion of poorer quality water and degradation. Potable water use during the interim or bridge supply will not significantly affect groundwater since this use is expected to be short-term and offset with the use of recycled water once it becomes available. (Ex. 11, p. 4.8-18.)

Process wastewaters from the WEC Plant, including cooling tower blowdown, will be recycled in a zero-liquid discharge (ZLD) treatment plant on-site. Surface or subsurface disposal of process wastewater or contaminated storm water is prohibited. (Condition **Soils & Water-10**.)

The evidence thus establishes that the use of recycled water and the employment of on-site ZLD treatment to eliminate the discharge of wastewater from the power plant will fully mitigate the potential for the project to cause a significant impact to water resources. Temporary use of potable water prior to the availability of recycled water and potential episodic use of potable water as a back-up source will not cause a significant impact to the groundwater resources of the region. (Ex. 45, p. 113.) The use of recycled and potable waters is satisfactorily addressed in Conditions **Soils & Water-5** through **Soils & Water-8**, and their implementation will appropriately ensure the use of recycled water is maximized while the use of potable water is minimized.

All chemical storage tanks at the plant site will be located in secondary containment areas to control accidental spills and leaks. All refueling operations and maintenance of construction equipment will be performed only in designated lined and/or curbed areas. Storm water runoff from the curbed portions of the site will be collected and routed through an oil-water separator and then

reclaimed for use as cooling tower makeup. In other areas of the developed site, storm water will be collected in an on-site detention/percolation pond, designed in accordance with City of Turlock requirements for such facilities. (See condition **Soil & Water -9**.)

## FINDINGS AND CONCLUSIONS

Based upon the evidence of record before us, we find and conclude as follows:

1. Soils in the project area are subject to wind and water erosion.
2. Applicant has submitted a draft erosion control plan for the construction phase of the project which identifies best management practices to be used to control erosion and the discharge of storm water off-site. These measures will ensure no significant adverse impacts occur to area soils.
3. The City of Turlock has agreed to provide both potable and recycled water service to the WEC.
4. Use of recycled water for cooling at the Walnut Energy Center is consistent with the state water policy.
5. Use of recycled water for industrial processes will avoid any substantial depletion or degradation of local or regional surface water supplies.
6. Use of potable water as a "bridge supply" until recycled water is available will be temporary and short-term in nature, and thus not result in significant impacts to water resources.
7. Use of Zero Liquid Discharge will eliminate the discharge of wastewater by the project.
8. The Conditions of Certification, below, are adequate to ensure that construction and operation of the WEC will not create significant adverse impacts to the matters addressed in the technical discipline of **Soils and Water Resources**.

We therefore conclude that the project will conform with all applicable laws, ordinances, regulations, and standards identified in the pertinent portion of **Appendix A** of this Decision.

**CONDITIONS OF CERTIFICATION**

**SOILS&WATER-1:** The project owner shall comply with all of the requirements of the General NPDES Permit for Discharges of Storm Water Associated with Construction Activity. The project owner shall develop and implement a Storm Water Pollution Prevention Plan for the construction of the entire project (construction SWPPP). The project owner shall submit copies to the CPM of all correspondence between the project owner and the RWQCB regarding this permit.

**Verification:** The project owner shall submit copies to the CPM of all correspondence between the project owner and the RWQCB about the General NPDES permit for the Discharge of Storm Water Associated with Construction Activities within 10 days of its receipt (when the project owner receives correspondence from the RWQCB), or within 10 days of its mailing (when the project owner sends correspondence to the RWQCB). This information shall include copies of the Notice of Intent and Notice of Termination for the project.

**SOILS&WATER-2:** Prior to beginning any site mobilization activities for any project element, the project owner shall obtain CPM approval for a site-specific Drainage, Erosion and Sedimentation Control Plan that addresses all project elements and ensures protection of water quality and soil resources, demonstrates no increase in off-site flooding potential or sedimentation, meets local requirements, provides legible drawings and complete narrative, and provides for monitoring and maintenance of all mitigation measures under the Plan. The plan shall be consistent with the grading and drainage plan as required by **Condition of Certification CIVIL-1** and may incorporate by reference any SWPPP developed in conjunction with any NPDES permit.

**Verification:** No later than 60 days prior to the start of any site mobilization for any project element, the project owner shall submit the Drainage, Erosion and Sedimentation Control Plan to the CPM for review and approval. This plan shall address appropriate methods and actions, both temporary and permanent, for the protection of water quality and soil resources, demonstrate no increase in off-site flooding potential, meet local requirements, include legible drawings, details and complete narrative, and identify all monitoring and maintenance activities. No later than 60 days prior to start of any site mobilization, the project owner shall submit a copy of the plan to Stanislaus County and the City of Turlock for review and comment. Any comments shall be provided to the CPM within 30 days of receipt of the plan. The plan must be approved by the CPM prior to start of any site mobilization activities. During construction, the project owner shall provide a report in the monthly compliance report on the effectiveness of the drainage, erosion and sediment control activities, and the results of monitoring and maintenance activities. Once operational, the project owner shall provide in the annual compliance report information on the results of monitoring and maintenance activities.

**SOILS&WATER-3:** The project owner shall comply with all of the requirements of the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity. The project owner shall develop and implement a Storm Water Pollution Prevention Plan for the operation of WEC (operation SWPPP). The project owner shall submit copies to the CPM of all correspondence between the project owner and the RWQCB about this permit.

**Verification:** The project owner shall submit copies to the CPM of the operation SWPPP prior to commercial operation and all correspondence between the project owner and the RWQCB about the General NPDES permit for Discharge of Storm Water Associated with Industrial Activity within 10 days of its receipt (when the project owner receives correspondence from the RWQCB) or within 10 days of its mailing (when the project owner sends correspondence to the RWQCB). This information shall include a copy of the Notice of Intent and Notice of Termination.

**SOILS&WATER-4:** The on-site septic system shall be designed and operated to prevent any adverse impacts to water quality. Prior to construction of the on-site sanitary wastewater treatment facility (septic system), the project owner shall obtain CPM approval for this system. Prior to CPM approval, the project owner shall provide to the CPM a written assessment from Stanislaus County of the facility's design compliance with applicable County requirements.

**Verification:** No later than 60 days prior to construction of the on-site sanitary wastewater treatment facility for WEC, the project owner shall prepare detailed engineering drawings for this facility and submit these drawings with a detailed description to the CPM and Stanislaus County for review. The detailed description shall include information on infiltration rates, existing groundwater quality and depth to groundwater. The project owner shall provide a written assessment to the CPM from Stanislaus County of the design compliance with all applicable County requirements and obtain CPM approval prior to the construction of the on-site sanitary water treatment facility.

**SOILS&WATER-5:** The project's water use shall be limited as described below. For purposes of this condition, the bridge period is defined as that period of time between the commencement of commercial operation of the WEC and the earlier of December 31, 2006 or when recycled water from the City of Turlock's wastewater treatment plant (WWTP) is available to the WEC. Water for construction purposes shall consist of groundwater provided from the existing TID well at the Walnut substation. Water, for all purposes, used during the bridge period shall consist of potable water provided by the City of Turlock, and shall not exceed 2 million gallons per day or 1,803 afy.

Water for operational and landscaping purposes used after the bridge period shall consist of recycled water from the City of Turlock WWTP and

shall not exceed 1,800 afy. Water for domestic needs after the bridge period shall consist of potable water provided by the City of Turlock and shall not exceed 3 afy. Potable water may also be used for back-up to the recycled water supply in the event of a short-term disruption in service and shall not to exceed 51 afy. Potable water may also be used in the event that recycled water is not available to the project subject to the provisions of **SOILS&WATER-6**. Alternative water use shall be calculated using a 5-year rolling average.

**Verification:** The project owner shall notify the Commission no later than May 31, 2006, and in monthly compliance reports thereafter, as to the status of recycled water production by the City of Turlock's WWTP until the WEC is using tertiary treated, recycled water for its non-potable operational and landscaping requirements. This notice shall include information on the issues related to recycled water production, DHS approval for recycled water service and the expected availability of recycled water supplies to WEC. After recycled water service is provided to WEC, the project owner shall report water use to the Commission as required by **SOILS&WATER-7**. Annual average water use shall be calculated using a 5-year rolling average of actual water use starting with the first year of operation. In the event of an interruption or reduction in recycled water service that requires the use of back-up potable water, the project owner shall notify the CPM, in writing, within 24 hours.

**SOILS&WATER-6:** The project owner shall prepare an Alternative Water Supply Plan to address either: (1) Title 22 compliant recycled water not being available from the City of Turlock's WWTP by December 31, 2006; or (2) a force majeure event occurring after initiation of recycled water service. The Plan shall be submitted no later than June 30, 2006. The Alternative Water Supply Plan shall demonstrate that high quality water use by WEC shall not exceed the historical average of 54 afy required to irrigate the 18-acre site. The project developer shall obtain approval for the alternate water supply plan prior to its implementation.

In the event that the City of Turlock's WWTP is not able to produce recycled water in accordance with Title 22 requirements by December 31, 2006 for use by WEC, the project owner shall inform the CPM no later than November 30, 2006. If the CPM determines that the WWTP is not able to produce the recycled water for delivery by December 31, 2006, the CPM shall allow implementation of the Alternative Water Supply Plan until such time as the recycled water is available.

If, after the initiation of recycled water service, a force majeure event results in the recycled water supply being temporarily interrupted, the project owner shall notify the CPM within 24 hours. As soon as reasonably possible, the project owner shall meet and confer with the CPM and City of Turlock to determine the estimated duration of the outage and how to restore the recycled water supply as soon as practicable. If the CPM

determines that the force majeure event may result in recycled water being unavailable for more than 30 days, then the CPM shall allow the project owner's implementation of the Alternative Water Supply Plan for the duration of the force majeure event.

**Verification:** The project owner shall prepare the "Alternative Water Supply Plan" to address either (1) recycled water not available by December 31, 2006 or (2) a force majeure event. The Plan shall be submitted no later than June 30, 2006.

This plan shall demonstrate no net increase in high quality water use above the historical average of 54 afy. This plan may achieve no net increase in high quality water use by methods including, but not limited to:

1. Use of shallow, degraded groundwater from the unconfined aquifer in the vicinity of the project site.
2. Use of irrigation tailwater or return flows.
3. Continued use of potable water supplied by the City of Turlock in conjunction with conservation measures that achieve an offset of water use in excess of 54 afy on an average annual basis.

This plan shall specifically address how the project owner will demonstrate no net increase in water use and any assumptions, calculations, needed agreements, and infrastructure to implement identified measures.

In the event that recycled water is not expected by the City of Turlock to be available until after December 31, 2006, the project owner shall notify the CPM in writing no later than November 30, 2006. The notification shall include the revised schedule for recycled water availability, an explanation of the causes for the delay in recycled water service, and any relevant correspondence between the project developer and the City of Turlock regarding recycled water service.

If after the initiation of recycled water service a force majeure event results in the recycled water supply being temporarily interrupted, the project owner shall notify the CPM within 24 hours by telephone or e-mail. This notification shall describe the event that has resulted in the interruption of recycled water supply, expected duration, and actions required to restore recycled water service.

**SOILS&WATER-7:** Prior to the use of any water by the WEC for operation, the project owner shall install and maintain metering devices as part of the water supply and treatment system to monitor and record in gallons per day; 1) total volumes of each potable and recycled water supplied to WEC; and 2) volumes used from each source for cooling purposes, non-cooling process water supplies, irrigation, wash water, demineralized water, and turbine injection. These metering devices shall be operational for the life of the project.

An annual summary of daily water use by WEC, differentiating between potable and recycled water and the uses of each at WEC, shall be submitted to the CPM in the annual compliance report.

**Verification:** No less than 60 days prior to the start of operation of WEC, the project owner shall submit to the CPM evidence that metering devices have been installed and are operational on the pipelines serving the project. These metering devices shall be capable of recording the quantities in gallons of water delivered to WEC and differentiate between sources and uses of these supplies by WEC in order to report daily water demand. The project owner shall provide a report on the servicing, testing, and calibration of the metering devices and operation in the annual compliance report.

The project owner shall submit a water use summary report to the CPM in the annual compliance report for the life of the project. The annual summary report shall be based on and shall distinguish between recorded daily use of potable and recycled water for all project uses, including landscape irrigation. The report shall include calculated monthly range, monthly average, and annual use by the project in both gallons per minute and acre-feet. For subsequent years this information shall also include the yearly range and yearly average water used by the project.

**SOILS&WATER-8:** The WEC project shall include the following specific design features to ensure maximum use of recycled water:

a) Plant and site piping shall be installed to allow recycled water to be used for cooling tower makeup and landscape irrigation. Cross connection protection between raw, recycled, and potable water systems shall be in accordance with Chapter 19, Backflow Prevention and Cross Connection Control, of Title 22, California Code of Regulations as proposed in the March 20, 2002 Draft Cross Connection Control Regulations.

b) Systems shall be included to facilitate the feed of a second oxidizing biocide (in addition to sodium hypochlorite) and also a non-oxidizing biocide.

c) The surface condenser shall be constructed of materials compatible with recycled water. Approval of the final design of the water supply and treatment system by the CPM shall be obtained prior to the start of construction of these systems.

d) A pipeline capable of conveying 2.0 mgd of recycled water from the City of Turlock's WWTP to WEC.

**Verification:** At least 60 days prior to the start of construction of the water supply system, the project owner shall submit to the CPM its water supply system design demonstrating compliance with this condition. These required

features shall be included in the final design drawings submitted to the CBO as required in Condition of Certification **CIVIL-1**. Approval of the final design of the water supply and treatment system by the CPM shall be obtained prior to the start of construction of the systems.

**SOILS&WATER-9:** Wash wastewater resulting from periodic cleaning of the compressors and heat recovery steam generators shall be contained on-site in a sump with the contents of the sump periodically pumped out by a vacuum truck and transported off-site for disposal at an appropriately licensed facility.

**Verification:** The project owner, in the annual compliance report, shall provide an accounting summary of the quantity and quality of wash and chemical cleaning water contained on-site, including the frequency of pumping, and the volume of water transported off-site for disposal. The accounting shall include documentation of the analytical reports required for disposal, pre-treatment processing if required for disposal, and identification of disposal location.

**SOILS&WATER-10:** Surface or subsurface disposal of process wastewater or contaminated storm water from WEC is prohibited. The project owner shall treat all non-sanitary wastewater streams with a zero liquid discharge (ZLD) system that results in a residual cake solid waste.

**Verification:** Within 60 days following the commencement of project operations, the project owner shall submit to the CPM the final design of the zero liquid discharge system including schematic, narrative of operation, maintenance schedules, on-site storage facilities, containment measures, and influent water quality. This information shall also include the results of the Waste Extraction Test of the residual cake solid waste from the zero liquid discharge system. In the annual compliance report, the project owner shall submit a status report on operation of the zero liquid discharge system including disruptions, maintenance, volumes of interim wastewater streams stored on-site, volumes of residual cake solids generated, and the landfills used for disposal. The WEC operation and wastewater production shall not exceed the treatment capacity of the ZLD system.

# VII. LOCAL IMPACT ACCESSMENT

The effect of a power plant project on the local area depends upon the nature of the community and the extent of the associated impacts. Technical topics discussed in this portion of the Decision consider issues of local concern including **Land Use, Noise, Socioeconomics, Traffic and Transportation, and Visual Resources.**

## A. LAND USE

The land use analysis focuses on two main issues: (1) whether the project is consistent with local land use plans, ordinances, and policies; and (2) whether the project is compatible with existing and planned uses.

While the parties stipulated to the factual matters relevant to this discipline, they disagreed on whether changing the nature of the use of the 18 acre plant site to industrial from agricultural comprises an impact which requires mitigation. The Committee heard legal arguments on this point (9/29/03 RT 159-231), and the parties addressed it in post-hearing submissions.[21]

### SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Undisputed Matters

The project site consists of 18 acres located within a 69 acre parcel in the southwestern portion of the City of Turlock, near the intersection of West Main Street and Washington Road. Large-parcel agriculture, open space, and industrial uses surround the parcel, along with scattered residences, agricultural production facilities, and a small peaker power plant. The transmission tie-line will traverse irrigated agricultural lands, as will the water supply and natural gas lines. (Ex. 11, pp. 4.4-5 to 4.4-6)

[21] Each party submitted an Opening Brief on October 31, 2003, followed by a Reply Brief on November 14, 2003.

The project site is within an "I" or industrially zoned area and complies with all applicable development standards in the Zoning Ordinance. The evidence also establishes that the project is an allowed and compatible use for the area, and will be consistent with the development pattern established in the General Plan. (Ex. 11, pp. 4.4-9 to 4.4-10; Ex. 45, p. 67.) While the linear alignments would temporarily affect existing uses, they will not permanently disrupt or divide an established community. Conditions **LAND-1** through **LAND-5** ensure compliance with applicable City land use standards.

2. Disputed Matters

The sole dispute revolves around conversion of the 18 acre plant site to an industrial use from the existing agricultural use (growing crops such as corn and oats for livestock feed). It is undisputed that the City of Turlock performed an environmental review leading, in 1992, to the annexation and rezoning (from agricultural to industrial) of 4700 acres, 3200 of which were prime agricultural land. In conducting its environmental review, the City acknowledged that conversion of the agricultural portion of this acreage was an adverse effect which could not be mitigated to below a level of significance. The City therefore adopted a Statement of Overriding Considerations. (9/29/03 RT 164-167; Exs. 48, 49, 50.) In 2002, the City revisited and reaffirmed its earlier actions. (9/29/03 RT 168; Ex. 45, pp. 68-70; Exs. 51, 52, 53, 54.)

The conversion and rezoning of this land – which includes the 18 acre project site – has thus been analyzed in various environmental documents.[22] The Committee took Official Notice of the documents used and actions taken by the City which were pertinent to the annexation and rezoning. (9/29/03 RT 161; Exs. 48-54.)

[22] These are: the 1992 Master Environmental Assessment and Draft EIR (Ex. 48); the 1992 Final EIR;(Ex. 49); the 1992 Statement of Overriding Considerations (Ex. 50); the 2002 Revised Master Environmental Assessment; the 2002 review of the General Plan; the Negative Declaration and recertification of the 1992 Final EIR for the 2002 review (9/29/03 RT 170; Exs. 52, 53, 54; see Applicant's Opening Brief, pp. 22-24).

The WEC project fully complies with applicable land use laws, ordinances, regulations, and standards, and is a compatible use within the existing industrial zoned area. (Ex. 11, pp.4.4-7 to 4.4-9; Ex. 45, pp. 67-68.) Staff, however, argues that conversion of the 18 acre site to an industrial use is a significant impact which requires mitigation, due in part to the "perfunctory" environmental analysis performed by the City. (9/29/03 RT 200-201.) Applicant disputes not only the significance of the impact, but also asserts that Public Resources Code section 21083.3 precludes, as a matter of law, analysis of any impact associated with the conversion. (9/29/03 RT 179-188; Applicant's Opening Brief, pp. 24-30.)

We address the latter contention first. Section 21083.3 deals with circumstances for which an environmental document for a General Plan has been adopted, and preparation of a subsequent document is thus rendered unnecessary. In our view, whether or not Section 21083.3 should also prevent our review of the impacts caused by converting the site parcel is moot since that review and analysis has already occurred. Staff has evaluated this matter "from scratch" and the record has a discussion of potential impacts due to the change in use of the site parcel. (9/29/03 RT 215-216.) Whether or not this evaluation need have occurred is irrelevant; the fact is that it did and we have considered the evidence put forth.

Rather, our decision turns on our evaluation of the significance of the impact caused by changing the use of the 18 acre site parcel.[23] The operative question is whether this change in use is substantial and adverse, and thus requires mitigation. In support of requiring mitigation, Staff points to a letter from the Department of Conservation (Department) suggesting that this conversion is a significant impact and a contributing factor to the cumulative adverse impact of development upon agricultural lands in Stanislaus County. (Letter of September 2, 2003 from Eric Vink; Staff's Opening Brief, p. 18; Reply Brief, pp. 12-13.) The Department mentions conservation easements or payment of mitigation fees as appropriate in this instance. Staff urges that the

[23] We do not assess the City's environmental review process as is implicitly suggested by Staff. (9/29/03 RT 200-202.)

Department's letter (and the Staff position based upon that letter) constitutes substantial evidence establishing the existence of a significant impact.[24] (Staff Reply Brief, p. 12.)

The evidence of record persuades us otherwise. The relevant question in our minds is not whether this letter is substantial evidence, but rather whether it is persuasive evidence in light of the record as a whole. We believe that in assessing whether the change to an industrial use constitutes a significant impact [25] it is necessary to examine all aspects of the conversion, not merely whether a conversion will occur. In this regard, we note that the site is consistent with applicable laws. The conversion will therefore not create any non-conformity. The City has also planned that this area be dedicated to industrial use. This industrial use will apparently proceed with or without the WEC project, and the City has not required mitigation for other industrial uses in this area, nor would it if the WEC project did not proceed. (Letter of October 15, 2003 from Dana McGarry.) While not a dispositive factor per se, we further note that the parcel is quite small when viewed in context of the acreage analyzed by the City or the amount of farmland in Stanislaus County. (9/29/03 RT 171-173.) Finally, we do not believe Appendix G of the CEQA Guidelines requires more than an examination of whether the conversion of farmland is significant. This differs from the view that conversion of *any* amount of farmland is likely a significant impact.[26]

[24] We note that the Department's position was not submitted under declaration, nor did anyone from the Department testify, subject to cross-examination, concerning the letter. Applicant has raised reasonable ambiguities concerning the meaning of the letter, and the letter's author is apparently no longer employed at the Department. (Applicant's Reply Brief, pp. 18-19, and p. 18, footnote 10.)

[25] For purposes of CEQA, a "significant effect on the environment" means a "…substantial, or potentially substantial adverse change…". (Pub Resources Code, §21068.)

[26]The Department of Conservation apparently has no maximum threshold to guide in assessing whether the conversion of a given amount of agricultural land is significant. (Staff's Opening Brief, p. 18, footnote 9.) We note that Appendix G of the Guidelines contains a checklist which is to be used as part of an agency's analysis of a project. [14 Cal Code of Regs., § 15063 (d) (3), (f).] The mere fact that a specific item on the checklist is appropriate for review does not necessarily equate with a significant impact. (9/29/03 RT 211-212.)

Ultimately, we are left with the situation wherein the City's annexation and rezoning anticipated, analyzed, and authorized a change in use from agricultural to industrial. Even if the WEC is not built, development of the site for approved industrial uses would result in the loss of a similar amount of agricultural land for which the City would not require compensatory mitigation. When these factors are combined with the small number of acres involved, we are simply not persuaded that a significant direct, indirect, or cumulative impact exists.[27] We therefore do not adopt Condition **LAND-6** proposed by Staff.

**FINDINGS AND CONCLUSIONS**

Based upon the persuasive weight of the evidence of record, we make the following findings and reach the following conclusions:

1. The WEC is located in an industrially zoned area and is a compatible use within that area.
2. The City of Turlock performed an environmental review in 1992 for the annexation and rezoning of the project area. The City revisited and reaffirmed this action in 2002.
3. The project is consistent with the City's land use and zoning.
4. The project would not disrupt or divide the physical arrangement of an established community.
5. The project would not preclude or unduly restrict existing or planned land uses, nor would it preclude or unduly restrict the conducting of agricultural land uses on neighboring properties.
6. The project will result in the conversion of 18 acres of farmland from present agricultural to industrial use. This change would occur with or without the WEC project.
7. The City of Turlock has not, nor is it likely to, require mitigation for industrial uses occurring within the project area.
8. There are no legal requirements mandating that the conversion of the WEC parcel be considered a significant adverse environmental impact.

[27] Staff acknowledges that the benefits of the change in use would likely outweigh its adverse impacts. (9/29/03 RT 214-215, 237.)

9. The evidence of record as a whole does not persuade us that conversion of the project parcel to the anticipated industrial use constitutes a significant adverse impact.

10. The Conditions of Certification ensure that the project will comply with all applicable local and use requirements.

We therefore conclude that the WEC project will not create significant adverse direct, indirect, or cumulative impact, and will comply with applicable laws, ordinances, regulations, and standards contained in the pertinent portion of **Appendix A** of this Decision.

## CONDITIONS OF CERTIFICATION

**LAND-1** The project owner shall comply with the minimum design and performance standards for the Industrial ("I") Zoning District set forth in the City of Turlock Zoning Ordinance.

**Verification**: At least 30 days prior to the start of construction, the project owner shall submit written documentation, including evidence of review by the City of Turlock Planning Department, that the project meets the above referenced requirements and has been reviewed by the City.

**LAND-2** The project owner shall comply with the parking standards established by the City of Turlock Zoning Ordinance (Chapter 9-2, Article 2).

**Verification**: At least 30 days prior to start of construction, the project owner shall submit to the CPM written documentation, including evidence of review by the City of Turlock, that the project conforms to all applicable parking standards.

**LAND-3** The project owner shall ensure that any signs erected (either permanent or for construction only) comply with the outdoor advertising regulations established by the City of Turlock Zoning Ordinance (Chapter 9-2, Article 5).

**Verification**: At least 30 days prior to start of construction, the project owner shall submit to the CPM written documentation, including evidence of review by the City of Turlock, that all erected signs will conform to the zoning ordinance.

**LAND-4** The project owner shall provide the Director of the City of Turlock Planning Department for review and comment, and the CPM for review and approval, descriptions of the final lay down/staging areas identified for construction of the project. The description shall include:

**(a)** Assessor's Parcel numbers;

**(b)** addresses;

**(c)** land use designations;

**(d)** zoning;

**(e)** site plan showing dimensions;

**(f)** owner's name and address (if leased); and

**(g)** duration of lease (if leased); if a discretionary permit is required, copies of all discretionary and/or administrative permits necessary for site use as lay down/staging areas shall be provided.

**Verification:** The project owner shall provide the specified documents at least 30 days prior to the start of any ground disturbance activities.

**LAND-5** The project owner shall provide to the CPM for approval a site plan with dimensions showing the locations of the proposed buildings and structures in compliance with the minimum yard area requirements (setbacks) from the property line as stipulated in the City of Turlock Zoning Ordinance.

**Verification:** Thirty (30) days prior to the start of construction, the project owner shall submit a site plan showing that the project conforms to all applicable yard area requirements as set forth in the City of Turlock Zoning Ordinance.

perpetuity. This discussion must include the schedule for purchasing 18 acres of prime farmland and/or easements within one year of start of construction as compensation for the eighteen acres of prime farmland to be converted by the WEC.

## D. TRAFFIC AND TRANSPORTATION

In this section, we examine the extent to which the WEC will affect the regional and local transportation systems. During these licensing proceedings, we reviewed the parties' analyses of: the roads and routings to be used during construction and operation phases of the project; the potential traffic problems associated with those routings; the adequacy of parking capacity; whether the project would lead to inadequate emergency access; and the frequency of, and routes associated with, the delivery of hazardous materials. The evidence submitted was uncontested.[28] (9/29/03 RT 14-23.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The key roads and highways in the vicinity of the WEC include State Highway 99, Washington Road, West Main Street, West Linwood Avenue, West Harding Road, South Tegner Road, Ruble Road, South Commons Road, and South Walnut Road. These are shown on Figure 1, below. The level of service on each of these is "C" or better.[29] The Union Pacific Railroad also operates an active main line along the north border of the WEC property. An existing spur will be used for deliveries of construction materials and equipment. (Ex. 11, pp. 4.9-6 to 4.9-7.)

Main access to the WEC site will be via a 20-foot wide, 1900 foot long road located approximately 1600 feet south of the Washington Road and West Main intersection. Secondary and emergency access will be provided by a road

[28] We have incorporated the modifications to Conditions **TRANS-4** and **TRANS-6** agreed to by the parties. (9/29/03 RT 24; Exs. 45, 47.)

[29] The operating conditions of a roadway (surface street) system, including intersections, are described using the term "level of service." Level of service (LOS) is a description of a driver's experience at an intersection or roadway based on the level of congestion (delay). LOS can range from "A," representing free-flow conditions with little or no delay, to "F," representing saturated conditions with substantial delay.

approximately 250 feet south of the site. This will connect to an unpaved private road which in turn extends to Ruble Road.

The natural gas pipeline will connect with PG&E's Line 215 at West Bradbury Road, south of the City of Turlock. The pipeline will run north from the intersection of West Bradbury Road and South Commons Road, approximately 2.7 miles along South Commons Road to the Union Pacific Railroad tracks. The pipeline will then turn east, paralleling the south side of the railroad track for 0.9 of a mile to the WEC site.

Potable water will come from a water main located at the intersection of South Tegner Road and Ruble Road. The pipeline will span 3,350 feet westward along Ruble Road and a private road. The pipeline will then turn north, crossing approximately 250 feet into the facility site.

The recycled water pipeline route will originate at the City's regional wastewater treatment facility. The line will travel north 350 feet along South Kilroy Road, then west about 2,625 feet across privately owned land to Tegner Road, then north 1,000 feet on Tegner Road to Ruble Road, west 3,350 feet on Ruble Road and a private road, then north 250 feet to the facility. (Ex. 11, pp. 4.9-8 to 4.9-9.)

1. Construction

As discussed in the **Socioeconomics** portion of this Decision, most of the construction workforce will likely be drawn from the cities of Turlock and Modesto in Stanislaus County, as well as from parts of Merced County. At the peak of construction, a total workforce of 205 workers per day will commute to the plant site, resulting in 315 daily vehicle trips. (Ex. 1, pp. 8.10-13 to 8.10-18.)

Construction of the recycled and potable water pipelines and related facilities will require a peak workforce of approximately 18 people, and will be completed over

a 4 to 5 month period. These construction workers will generate an estimated 48 daily trips. Construction of the 3.6-mile natural gas pipeline will require a peak workforce of approximately 36 people, and will be completed over a period of 3 to 5 months. These workers will generate an estimated 56 daily trips. Construction of the 69 kV and 115 kV transmission lines will require a peak workforce of approximately 20 people, and will be completed over a 3 to 4 month period. During the construction period, TID's workers will meet at the corporate yard and travel together to the work site in crew trucks.

Truck deliveries of heavy equipment, construction materials, and miscellaneous items will likely use the designated truck routes of West Main Street, South Washington Road, and West Taylor Road. An average 8 to 10 deliveries per day will occur between 7:00 a.m. and 7:00 p.m., with as many as 20 deliveries per day during the peak period.

Altogether, about 445 peak construction worker and truck trips will be attributable to the facility. (Ex. 11, pp. 4.9-11 to 4.9-12.) These temporary additions to local traffic will not cause the LOS for any roadway to deteriorate below level of service "C."[30]

The vehicles used to transport heavy equipment and construction materials will require transportation permits when they exceed the size, weight, width, or length thresholds set forth in Section 35780 of the California Vehicle Code (CVC), Sections 117 and 660-711 of the California Street and Highways Code, and Sections 1411.1 to 1411.6 of the California Code of Regulations. Affected vehicles will be required to obtain transportation permits from the City of Turlock, Stanislaus County, and Caltrans.

Generally, only small quantities of hazardous materials will be used during the construction period. These may include gasoline, diesel fuel, motor oil, hydraulic

[30] LOS "D" is the City's acceptable standard. (Ex. 11, p. 4.9-12.)

fluid, solvents, cleaners, sealants, welding flux, various lubricants, paint, and paint thinner. Because of the small quantities involved, separate truck deliveries of hazardous materials during construction are unlikely.

Debris and small quantities of hazardous wastes will be generated during construction. A minimal number of truck trips per month will be required to haul this waste for disposal. Transportation of hazardous materials to and from the WEC will be conducted in accordance with CVC Section 31303. Because the transport of hazardous wastes will be conducted according to the relevant transportation regulations, no significant impact is expected.

All road-crossing construction activities will comply with local, state, and federal regulatory requirements and specifications. Adequate barricades and lights will be provided around excavations at crossings as specified in Caltrans' "Manual of Traffic Controls for Construction and Maintenance of Work Zones" and CVC Section 21400. A traffic management plan will be developed for this project to assure impacts during the construction period are adequately mitigated (condition **TRANS-5**).

2. Operation

During project operations, the 21 permanent employees will generate about 42 vehicle trips per day. On average, there will also be three truck deliveries per day.

Condition **TRANS-3** requires that the transportation of hazardous materials to and from the site be conducted in accordance with all applicable LORS. The California Department of Motor Vehicles specifically licenses all drivers who carry hazardous materials. Drivers are required to check for weight limits and conduct periodic brake inspections. Commercial truck operators handling hazardous materials are required to take instruction in first aid and procedures on handling

hazardous waste spills. Drivers transporting hazardous waste are required to carry a manifest which is available for review by the California Highway Patrol at inspection stations along major highways and interstates. Assuming compliance with existing federal and state standards, deliveries of hazardous materials such as anhydrous ammonia and sulfuric acid will not likely create adverse impacts. (Ex. 11, p. 4.9-19.)

Finally, shortly before the evidentiary hearing, the Stanislaus County Airport Land Use Commission suggested that the WEC may be inconsistent with land use restrictions established in the Airport Land Use Commission Plan. The Land Use Commission indicated that Applicant should consider employing various measures at the project (such as sound proofing, minimizing electromagnetic transmissions, safe storage of volatile or flammable liquids), as well as executing an "Avigational Easement." This easement would acknowledge existing and potential future restrictions on the WEC property due to the proximity (about 3.5 miles away) of the Turlock Airport. (Letter of September 18, 2003.)

Testimony at the evidentiary hearing establishes that the concerns raised by the Airport Land Use Commission are adequately addressed through overall consideration of the project and imposition of the mitigation measures contained in this Decision. (9/29/03 RT 17; see also letter of October 7, 2003 from Mark R. Hamblin to Debra A. Whitmore.) Staff did not believe an "avigational easement" was necessary (9/29/03 RT 18), and Applicant testified that normal operation of the airport and the WEC would not be incompatible. (9/29/03 RT 23.) Thus, the weight of the evidence does not establish the need for the suggested easement.

## FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, we find and conclude as follows:

1. The additional traffic associated with construction and operation of the WEC project will not have a significant effect on existing levels of service for roads in the project vicinity.
2. Development and implementation of a construction traffic control program will offset any temporary, short-term increases in congestion resulting from construction of the project and its linear facilities.
3. The construction of the project's linear alignments will not result in a significant effect on traffic due to the temporary nature of the construction period and the changing locations for construction activities.
4. Potential adverse impacts associated with the transportation of hazardous materials during construction and operation of the project will be mitigated to insignificance by compliance with applicable federal and state laws.
5. Implementation of the Conditions of Certification, below, will ensure that both construction and operation of the project comply with all applicable laws, ordinances, regulations, and standards regarding traffic and transportation as identified in the pertinent portion of **Appendix A** of this Decision.
6. The substance of the suggestions made by the Stanislaus County Airport Land Use Commission is adequately addressed in various portions of this Decision.
7. The evidence of record does not establish the necessity for TID to execute an "avigational easement" as suggested by the Stanislaus County Airport Land Use Commission.

The Commission, therefore, concludes that construction and operation of the project, as mitigated herein, will not result in any significant, direct, indirect, or cumulative adverse impacts to the local or regional traffic and transportation system.

**CONDITIONS OF CERTIFICATION**

**TRANS-1** The project owner shall comply with Caltrans and any affected jurisdiction's limitation on vehicle sizes and weights. In addition, the project owner or its contractor shall obtain necessary transportation permits from Caltrans and any affected jurisdiction for roadway use.

**Verification:** In the Monthly Compliance Reports (MCRs), the project owner shall submit copies of any transportation permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least 6 months after the start of commercial operation.

**TRANS-2** The project owner or its contractor shall comply with Caltrans and any affected jurisdiction's requirement for encroachment into public rights-of-way and shall obtain necessary encroachment permits from Caltrans and any affected jurisdiction.

**Verification:** In the MCRs, the project owner shall submit copies of encroachment permits received during the reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least 6 months after the start of commercial operation.

**TRANS-3** The project owner shall ensure that permits and/or licenses are secured from the California Highway Patrol and Caltrans for the transport of hazardous materials.

**Verification:** The project owner shall include in its Monthly Compliance Reports copies of all permits/licenses acquired by the project owner and/or subcontractors concerning the transport of hazardous substances.

**TRANS-4** The project owner shall prepare a parking plan(s) for the construction and operation phases of the project in consultation with the City of Turlock. The City of Turlock shall have 30 calendar days to review the parking plan and provide written comments to the project owner. The project owner shall provide a copy of the City of Turlock's written comments and a copy of the parking plan(s) to the CPM.

The parking plan shall include a policy, to be enforced by the project owner, stating all project-related parking occurs on-site or in designated off-site parking areas as shown on the plan.

**Verification:** At least 30 calendar days prior to site mobilization, the project owner shall provide a copy of the parking plan for the construction phase to the

CPM for review and approval, with documentation of review and the submittal of any written comments by the City of Turlock. At least 30 calendar days prior to the start of commercial operation, the project owner shall provide a copy of the final on-site parking plan for the facility to the CPM for review and approval, with documentation of review and the submittal of any written comments by the City of Turlock.

**TRANS-5** The project owner shall prepare a construction traffic control and implementation plan for the project and its associated facilities. The project owner shall consult with the affected local jurisdiction(s), Caltrans (if applicable), and the Chatom Union School District in the preparation of the traffic control and implementation plan. The local jurisdiction, Caltrans (if applicable), and school districts shall have 30 calendar days to review the plan and provide written comments to the project owner. The project owner shall provide a copy of the local jurisdictions', Caltrans', and school districts' written comments and a copy of the traffic control and implementation plan to the CPM.

The traffic control and implementation plan shall include and describe the following minimum requirements:

- Timing of heavy equipment and building materials deliveries and related hauling routes;
- Redirecting construction traffic with a flag person;
- Signing, lighting, and traffic control device placement;
- Timing of construction work hours and arrival/departure intervals outside of peak traffic periods;
- Coordinating measures for eliminating any traffic safety hazards to school buses and school children on or near the construction worker travel and truck routes;
- Ensuring safe access to the main entrance;
- Ensuring access for emergency vehicles to the project site;
- Closing of travel lanes on a temporary basis;
- Ensuring access to adjacent residential and commercial property during the construction of all linear facilities; and
- Devising a construction workforce ridesharing plan.

The project owner shall submit the proposed traffic control and implementation plan to the affected local jurisdiction(s), school district(s), and/or Caltrans for review and comment. The project owner shall provide to the CPM a copy of the transmittal letter submitted to the affected local jurisdiction(s), school district(s), and Caltrans requesting their review of the traffic control and implementation plan.

The project owner shall provide any comment letters to the CPM for review and approval.

**Verification:** At least 30 calendar days prior to site mobilization, the project owner shall provide a copy of the traffic control and implementation plan to the CPM for review and approval.

**TRANS-6** The project owner shall provide to the CPM a copy of the private vehicular access easement (PVAE) executed with the affected property owner(s) securing the Walnut Energy Center's secondary vehicle access to the subject property. The project owner shall also provide to the CPM a copy of the maintenance and repair agreement for the PVAE executed with the affected property owner, allowing the project owner to maintain, service, and repair the vehicle access easement area. The PVAE and the maintenance/repair agreement shall be executed prior to the start of construction of the secondary access road.

**Verification:** At least 30 calendar days prior to the start of construction of the secondary access road, the project owner shall submit to the CPM a copy of the executed PVAE and maintenance/repair agreements.

**TRANS-7** The project owner shall repair affected public rights-of-way (e.g., highway, road, bicycle path, pedestrian path, etc.) that have been damaged due to construction activities conducted for the project and its associated facilities to original or near original condition.

Prior to start of site mobilization, the project owner shall notify the affected local jurisdiction(s) and Caltrans (if applicable) about its schedule for project construction. The purpose of this notification is to request that the local jurisdiction(s) and Caltrans consider postponement of public right-of-way repair or improvement activities until after project construction has taken place and to coordinate construction related activities associated with the applicable identified local jurisdiction or Caltrans project(s) with the project owner. Prior to the start of site mobilization, the project owner shall photograph or videotape the following public right-of-way segment(s) (includes intersections): Commons Road, South Washington Road, Tegner Road, Ruble Road, West Main Street, West Harding Road, and Kilroy Road. The project owner shall provide the CPM, the affected local jurisdiction(s), and Caltrans (if applicable) with a copy of these images.

**Verification:** Within 60 calendar days after completion of construction, the project owner shall meet with the CPM, the affected local jurisdiction(s), and Caltrans (if applicable) to identify sections of public rights-of-way to be repaired, and to establish a schedule to complete the repairs and to receive approval for the action(s). Following completion of any public rights-of-way repairs, the project

owner shall provide to the CPM a letter signed by the affected local jurisdiction(s) and Caltrans stating their satisfaction with the repairs.

## E. VISUAL RESOURCES

Visual resources are the natural and cultural features of the landscape that contribute to the visual character or quality of the environment. CEQA requires an examination of a project's visual impacts in order to determine whether the project has the potential to cause substantial degradation to the existing visual character of the site and its surroundings. (Cal. Code of Regs., tit. 14 § 15382, Appendix G.)

In order to make this assessment, the CEQA guidelines suggest four pertinent inquiries to determine whether the project would:

- have a substantial adverse effect on a scenic vista;
- substantially damage scenic resources including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway;
- substantially degrade the existing visual character or quality of the site and its surroundings; or
- create a new source of substantial light or glare which would adversely affect day or night time views in the area. (14 Cal. Code of Regs. Appendices G and I.)

Though the parties initially disputed various items in this discipline, they reached accord by the time of the second evidentiary hearing. (9/29/03 RT 27-30.) We have included the versions of Conditions **VIS-2** and **VIS-4** as proposed by the parties. (Exs. 11, 45, 47.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

A visual resources analysis has an inherently subjective aspect. However, the evidence indicates that the use of an ascertainable methodology is also necessary to accurately evaluate visual impacts. The evidence describes this methodology as including an assessment of compliance with applicable laws, the extent of any alteration to the existing viewshed including blockage of desirable views, creation of a decrease in visual quality, and the introduction of a

substantial change to nighttime or daytime lighting levels. The type of visual change, duration of impact, viewer sensitivity, and number of viewers are additional factors relevant to a visual resources analysis. (Ex. 11, pp. 4.11-2 to 4.11-5.)

The Applicant, in consultation with Staff, selected five key observation points (KOPs) to characterize the existing visual setting within which the proposed project was evaluated (Ex. 11, pp. 4.11-9 to 4.11-10):

- KOP1 – Ruble Road;
- KOP2 – West Main Street and Washington Road;
- KOP3 – 425 Commons Road;
- KOP4 – 807 South Washington Road; and
- KOP5 – 115 kV transmission line crossing of South Washington Road.

At each KOP, the Staff conducted a visual analysis that considered visual quality, visual sensitivity, visibility, viewer exposure, and visual susceptibility. (Ex. 11, pp. 4.12-9 through 4.12-15.) To assess the visual changes that the project would cause, Staff considered the following factors: dominance, contrast, view, and blockage. (Ex. 11, pp. 4.12-17 through 4.12-22.)

Project construction would cause visual impacts due to the presence of equipment, materials, and workers, most noticeably to the four residences at KOP4. These intrusions would occur for 20 to 24 months at the plant site, and along routes of the linear facilities for much shorter periods, typically a week or two. The evidence establishes that Conditions **VIS-1** and **VIS-3** will reduce these construction impacts to insignificant levels. (Ex. 11, pp. 4.11-15 to 4.11-16.)

After completion, project impacts may result from the power plant and associated structures, as well as from visible plumes from the cooling tower and the combustion exhaust. At 65 feet tall and 100 feet long, the HRSG units will be

visually prominent; fixtures atop these units will reach a height of 105 feet. The two HRSG stacks each will be 132 feet tall and 17 feet in diameter. Brine concentrators will be 112 feet tall and 10 feet in diameter, with a 17 foot base diameter. The cooling tower will be 56 feet tall and 271 feet in length. The STG will be 38 feet tall and 104 feet long. (Ex. 11, p. 4.11-17.)

The WEC's taller structures will be visible in some views. When considered in the existing visual context, and with the mitigation measures taken into account, the evidence establishes that the project's impacts will not be significant. With the implementation of the measures required in Conditions of Certification **VIS-1** through **VIS-5**, the project will comply with all applicable LORS, will not have a substantial adverse effect on a scenic vista, nor will it substantially degrade the existing visual character or quality of the site and its surroundings. (Ex. 11, p. 4.12-34.)

The project's major visible plume sources are the cooling tower and the HRSG exhausts. Staff performed an independent analysis of both. Visible plumes from the cooling tower will likely occur during seasonal daylight clear hours. The evidence indicates that the overall visual change caused by the cooling tower's visible water vapor plumes would be moderate to high due to the plumes' degree of contrast with the existing setting and their dominance. When considered within the context of the visual sensitivity of the existing landscape and viewing characteristics, the degree of visual change caused by the WEC cooling tower plumes would result in an adverse but less than significant impact. (Ex. 11, p. 4.11-25.) Condition of Certification **VIS-6** ensures that the cooling tower will be designed and operated to minimize plume impacts. (Ex. 11, pp. 4.11-25 to 4.11-26.)

The HRSG plume frequencies are predicted to be less than 10 percent of seasonal daylight clear hours. Therefore, the HRSG exhausts are not expected to cause significant visual impacts under the expected operating conditions, and

the evidence establishes that no further visual plume impact analysis is necessary. (Ex. 11, p. 4.12-26.)

The project vicinity includes a number of existing, prominent facilities which are industrial in nature and some of which emit water vapor plumes. The local area is sparsely populated and does not contain landscape features of notable scenic quality. These factors indicate the WEC is not likely to create or contribute to the creation of significant adverse cumulative impacts. (Ex. 4.11-27.)

Finally, the evidence uniformly establishes that the project will not create a new source of substantial light or glare that would adversely affect day or night time views in the area. Project light fixtures will be restricted to areas as required for safety, security, and operations. Lighting will be directed on-site and shielded from public view. Non-glare fixtures and switches, sensors, and timers (to minimize the time that lights not needed for safety and security are on) will be used. (Ex. 1, p. 8.11-12; see condition **VIS-3**.)

**FINDINGS AND CONCLUSIONS**

Based on the uncontroverted evidence of record, we find and conclude as follows:

1. The Walnut Energy Center will be located in the Industrial Zone of the City of Turlock.
2. The project area posses no notable visual features, scenic vistas, or visual quality.
3. The WEC project does not substantially degrade the existing visual character or quality of the site and its surroundings.
4. Construction of the project's linear facilities will cause temporary visual impacts, but no permanent visual impacts will result.

5. The primary project components that could affect visual resources include the heat recovery system generators (HRSG), HRSG exhaust brine concentrator stacks, the steam turbine generator, and the cooling tower.
6. The project owner will implement appropriate mitigation measures to reduce or eliminate visual impacts due to backscatter and glare from nighttime lighting, and glare from sunlight reflection on the metallic surfaces of project components.
7. The Conditions of Certification ensure that the occurrence of visible cooling tower plumes will be minimized to the extent practicable.
8. The predicted occurrence of vapor plumes from the HRSG stacks is less than 10 percent of seasonal daylight clear hours.
9. Implementation of the Conditions of Certification will ensure that the project's visual impacts are less than significant.
10. The WEC will not create or contribute to the creation of significant adverse cumulative visual impacts.
11. Implementation of the Conditions of Certification, below, will ensure that WEC complies with all applicable laws, ordinances, regulations, and standards relating to visual resources as identified in the pertinent portion of **Appendix A** of this Decision.

We therefore conclude that with implementation of the following Conditions of Certification the project will not cause any significant adverse direct, indirect, or cumulative impacts to visual resources.

## CONDITIONS OF CERTIFICATION

**VIS-1** The project owner shall ensure that visual impacts of project construction are adequately mitigated by implementing the following measures:

The project owner shall visually screen the project site and the power plant construction laydown and parking area with temporary screening fencing. The screening material, such as mesh fabric or privacy slats, shall be of an appropriate design and opacity to effectively reduce the visibility of construction equipment, materials, and construction personnel vehicles. The color of the temporary screening material shall blend with the surrounding environment.

The project owner shall remove all evidence of construction activities and shall restore the ground surface to the original or improved condition, including the replacement of any vegetation or paving removed during construction.

**Verification:** At least 60 days prior to the start of site mobilization, the project owner shall submit to the Energy Commission Compliance Project Manager (CPM) a screening plan describing how the visibility of construction materials, equipment, and vehicles will be reduced. If the CPM notifies the project owner that any revisions to the plan are needed, within 30 days of receiving that notification the project owner shall resubmit the plan with the specified revisions.

The project owner shall install the temporary screening fencing prior to the start of ground disturbance, and shall notify the CPM within 7 days of installing the temporary fencing that it is ready for inspection.

At least 60 days prior to the start of commercial operation, the project owner shall submit a surface restoration plan to the CPM for review and approval. If the CPM notifies the project owner that any revisions to the plan are needed, within 30 days of receiving that notification the project owner shall resubmit the plan with the specified revisions.

The project owner shall complete surface restoration within 60 days after the start of commercial operation, and shall notify the CPM within 7 days of completing surface restoration that the restoration is ready for inspection.

**VIS-2** The project owner shall treat the surfaces of all major project structures and buildings conventionally receiving color treatment and visible to the public with a gray color, as specified in the AFC. The project owner shall establish that: the surfaces of the equipment will be treated in such a way that minimize visual intrusion and contrast by blending with the landscape; the surfaces do not create excessive glare; and the treatment is consistent with local laws, ordinances, regulations, and standards. The transmission line conductors shall be non-specular and non-reflective, and the insulators shall be non-refractive. The project owner shall submit for CPM review and approval, and to the City of Turlock for review and comment, a specific treatment plan the proper implementation of which will satisfy these requirements. The treatment plan shall include:

1. Specification, and 11” x 17” color simulations at life size scale, of the treatment proposed for use on project structures, including structures treated during manufacture, from Key Observation Points 2 and 5;
2. A list of each major project structure, equipment, building, tank, pipe, transmission line tower and/or pole, and fencing visible to the public, specifying the color(s) and finish proposed for each (colors must be identified by name and by vendor brand or a universal designation);
3. Two sets of brochures and/or color chips for each proposed color;

4. Samples with dimensions of at least five inches by seven inches of each proposed treatment and color on each material to which they would be applied that would be visible to the public;

5. A detailed schedule for completion of the treatment; and

6. A procedure to ensure proper treatment maintenance for the life of the project.

The project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture, or perform the final treatment on any buildings or structures treated on-site, until the project owner receives notification of approval of the treatment plan by the CPM.

**Verification:** The project owner shall submit its proposed treatment plan at least 60 days prior to ordering the first structures that are color treated during manufacture. If a revision is required, the project owner shall provide the CPM with a revised plan within 30 days of receiving notification that revisions are needed.

No later than 45 days following the Source Tests conducted pursuant to Condition of Certification **AQ-42**, the project owner shall notify the CPM that all structures and buildings are ready for inspection. The project owner shall provide a status report regarding treatment maintenance in the Annual Compliance Report.

**VIS-3** The project owner shall ensure that lighting for construction of the power plant is used in a manner that minimizes potential night lighting impacts, as follows:

1. All lighting shall be of minimum necessary brightness consistent with worker safety;

2. All fixed position lighting shall be shielded/hooded and directed downward to minimize direct illumination of the night sky and direct light trespass (direct lighting extending outside the boundaries of the construction area);

3. Wherever feasible and safe and not required for security, lighting shall be kept off when not in use; and

4. If the project owner receives a complaint about construction lighting, the project owner shall notify the CPM and shall use the complaint resolution form shown in the General Conditions section of the Compliance Plan to record each lighting complaint and to document the resolution of that complaint. The project owner shall provide a copy of each complaint from to the CPM.

**Verification:** Within 7 days after the first use of construction lighting, the project owner shall notify the CPM that the lighting is ready for inspection.

If the CPM notifies the project owner that modifications to the lighting are needed to minimize impacts, within 15 days of receiving that notification the project owner shall implement the necessary modifications and notify the CPM that the modifications have been completed.

The project owner shall report any lighting complaints and documentation of resolution in the Monthly Compliance Report.

**VIS-4** The project owner shall design and install all permanent exterior lighting such that lamps and reflectors are not visible from public viewing areas; lighting does not cause excessive reflected glare; direct lighting does not illuminate the nighttime sky; illumination of the project and its immediate vicinity is minimized to the extent feasible consistent with safety and security considerations; and lighting complies with local policies and ordinances. To meet these requirements the project owner shall submit a lighting control plan that incorporates the following elements:

1. Lighting shall be designed so exterior light fixtures are hooded/shielded, with lights directed downward or toward the area to be illuminated and so that direct illumination of the night sky is minimized. The design of the lighting shall be such that the luminescence or light source is shielded to reduce light trespass outside the project boundary. The plan shall include line-of-sight diagrams that demonstrate that the lighting will satisfy these requirements;
2. All lighting shall be of minimum necessary brightness consistent with worker safety and security concerns;
3. Lamps shall be low-pressure sodium or other low-glare type lamps;
4. High illumination areas not occupied on a continuous basis (such as maintenance platforms) shall have switches or motion detectors to light the area only when occupied; and
5. If the project owner receives a complaint about lighting, the project owner shall notify the CPM and shall use the complaint resolution form shown in the General Conditions section of the Compliance Plan to record each lighting complaint and to document the resolution of that complaint. The project owner shall provide a copy of each complaint from to the CPM.

**Verification:** At least 90 days prior to ordering any permanent exterior lighting, the project owner shall contact the CPM to arrange a meeting to discuss the documentation required in the lighting control plan.

At least 60 days prior to ordering any permanent exterior lighting, the project owner shall submit to the CPM for review and approval, and to the City of Turlock for review and comment, a lighting control plan that describes the measures to be used and demonstrates that the requirements of the condition will be satisfied.

The project owner shall not order any exterior lighting until it receives CPM approval of the lighting mitigation plan.

No later than 45 days following the Source Tests conducted pursuant to Condition of Certification **AQ-42**, the project owner shall notify the CPM that the lighting has been completed and is ready for inspection. If the CPM notifies the project owner that modifications to the lighting are needed, within 30 days of receiving that notification the project owner shall implement the modifications and notify the CPM that the modifications have been completed.

The project owner shall report any complaints about permanent lighting and provide documentation of resolution in the Annual Compliance Report for that year.

**VIS-5** The project owner shall provide landscaping at the WEC site consistent with policies and requirements of the City of Turlock General Plan and Zoning Ordinance. At a minimum, the project owner shall provide landscaping at the driveway entrance to the WEC site. The project owner shall provide off-site landscaping to reduce the visibility of the power plant from the residences represented by KOP 4 and the residence at the western end of Ruble Road, if the property owners are interested in the plantings. The project owner shall submit a landscaping plan for the WEC site to the CPM for review and approval and to the City of Turlock for review and comment. The plan shall include:

1. A detailed list of the plants to be used specifying their locations, rates of growth and times to maturity, and their proposed number, size, and age at planting;
2. Maintenance procedures for on-site plantings, including any needed irrigation and a plan for routine annual or semi-annual debris removal for the life of the project; and
3. A procedure for monitoring and replacing unsuccessful on-site plantings for the life of the project.

The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM.

**Verification:** At least 90 days prior to installing the landscaping at the WEC site, the project owner shall submit the landscaping plan to the CPM for review and approval and to the City of Turlock for review and comment. If the CPM notifies the project owner that revisions of the submittal are needed, within 30 days of receiving that notification the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall inform the CPM in writing of the residences that will receive landscaping and submit a brief description of the landscaping to be provided.

The project owner shall complete the installation of all plantings prior to the start of commercial operation. The project owner shall notify the CPM within 7 days after completing installation of all landscaping that the plantings and on-site irrigation system are ready for inspection.

The project owner shall report landscape maintenance activities, including replacement of dead vegetation, for the previous year of operation in each Annual Compliance Report.

**VIS-6** The project owner shall ensure that the Walnut Energy Center cooling tower is designed and operated so that the plume frequency will not increase from the design as certified.

The cooling tower shall be designed so that the exhaust air flow rate per heat rejection rate (1) will not be less than 15.0 kilograms per second per megawatt when the ambient temperatures are between 32 and 46 degrees F; and (2) will not be less than 19.0 kilograms per second per megawatt when the ambient temperatures are greater than 46 degrees F and less than 80 degrees F.

**Verification:** At least 30 days prior to ordering the cooling towers, the project owner shall provide to the CPM for review the final design specifications of the cooling tower related to plume formation. The project owner shall not order the cooling tower until notified by the CPM that the two design requirements above have been satisfied.

The project owner shall provide a written certification in each Annual Compliance Report to demonstrate that the cooling towers have consistently been operated within the above-specified design parameters, except as necessary to prevent damage to the cooling tower. If determined to be necessary to ensure operational compliance, based on legitimate complaints received or other physical evidence of potential non-compliant operation, the project owner shall monitor the cooling tower operating parameters in a manner and for a period as specified by the CPM. For each period that the cooling tower operation monitoring is required, the project owner shall provide to the CPM the cooling tower operating data within 30 days of the end of the monitoring period. The project owner shall include with this operating data an analysis of compliance and shall provide proposed remedial actions if compliance cannot be demonstrated.

## B. NOISE AND VIBRATION

The construction and operation of any power plant project will create noise. The character and loudness of this noise, the times of day or night during which it is produced, and the proximity of the project to sensitive receptors combine to determine whether project noise will cause significant adverse impacts. In some cases, vibration may be produced as a result of construction activities such as blasting, which has the potential to cause structural damage and annoyance. The analysis of record summarized below evaluates whether noise and vibration produced during project construction and operation will be sufficiently mitigated to comply with applicable law. The evidence presented was uncontested[31]. (9/29/03 RT 10-12.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The project site is in an industrially zoned area, on the western edge of the City of Turlock, 2.9 miles west of Highway 99 and south of West Main Street. The site is bounded by industrial and residential uses to the north and east; agricultural and residential uses to the south; and agricultural, residential, and utility uses to the west. In general, the noise environment in the vicinity of the project site is dominated by industrial noise, agricultural operations, road and rail traffic during the day, and by industrial noise, traffic, and agricultural operations at night. (Ex. 11, p. 4.6-9.)

Applicant conducted an ambient noise survey to assess likely effects of the project on adjacent sensitive receptors.[32] Existing noise levels were measured at:

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[31] We have included changes to the Conditions suggested by the parties. (9/29/03 RT 11; Exs. 45, 47.)

[32] All the nearest residences are on land zoned for agricultural or heavy industrial uses.

1. Monitoring Location M1: Adjacent to the residence at the end of Ruble Road, approximately 375 feet south of the project site boundary. Existing noise is due chiefly to agricultural operations and a livestock feed processing plant.
2. Monitoring Location M2: At the residence on West Main Street, approximately 1,450 feet north of the site. Existing noise is due to many of the same sources as at Location M1, plus traffic noise.
3. Monitoring Location M3: Across from the residence on West Main Street at Washington Street, approximately 3,500 feet northwest of the project site. Existing noise includes traffic noise.
4. Monitoring Location M4: At the residence on Washington Street, approximately 2,600 feet west of the project site. Existing noise consists chiefly of agricultural operations and traffic noise.

Thus the surrounding neighborhood is rather noisy, day and night. Table 1, below, summarizes the measured noise levels.

**NOISE Table 1 — Existing Noise Levels**

| Monitoring Location | Level in dBA, $L_{dn}$ | Nighttime Average $L_{90}$, dBA (10 p.m. – 7 a.m.) |
|---|---|---|
| M1 – Residence on Ruble Road | 71 | 55 |
| M2 – Residence on West Main Street | 63 | 51 |
| M3 – Across from residence on West Main at Washington Street | 68 | 59 |
| M4 – Residence on Washington Street | 62 | 47 |

Source: Ex. 11, p. 4.6-9.

The project is located near two jurisdictional boundaries. The power plant is located within the City limits. However, residential receptors M1, M3, and M4 are located on agriculturally-zoned land in the County.

The project will create noise during both its construction and its operation.

1. Construction

Construction noise is a temporary event, in this case expected to last about 24 months. City construction noise limits are set forth in **Noise Table 2**:

**NOISE Table 2 – City of Turlock Noise Ordinance**
**Construction Noise Limits**

| Time Interval | One and Two Family Residential (dBA $L_{50}$) | Commercial & Industrial (dBA $L_{50}$) |
|---|---|---|
| Mobile Construction Equipment | | |
| Daily: 7:00 a.m. – 7:00 p.m. | 75 | 85 |
| Weekends/Holidays: 9:00 a.m. – 8:00 p.m. | 60 | 70 |
| Stationary Construction Equipment | | |
| Daily: 7:00 a.m. – 7:00 p.m. | 60 | 70 |
| Weekends/Holidays: 9:00 a.m. – 8:00 p.m. | 50 | 60 |

Source: Ex. 11, p. 4.6-4.

For residences in agriculturally zoned land, the County noise elements considers levels up to 75 dBA $L_{dn}$ as normally acceptable. (Ex. 11, p. 4.6-5.) Noisy construction work will be limited to the hours mandated in the City Noise Ordinance, which are at or below those allowed by the County. (Ex. 1, Sections 8.5.5.2.2, 8.5.6.) Condition of Certification **NOISE-8** will ensure compliance with this requirement.

If pile driving is not employed, construction noise at the receptors near monitoring location M2 will be audible, but not annoying; construction noise at the receptors near monitoring locations M3 and M4 should be largely unnoticeable. Only at the three residences near monitoring location M1 could construction noise be noticeable and potentially annoying. However, due to the small number of affected residences and the fact that noisy construction work will be restricted to daytime hours, the evidence persuades us that construction noise will not constitute a significant adverse impact if pile driving is not employed. Condition of Certification **NOISE-2** provides a noise complaint resolution process to deal with any noise complaints related to this work. (Ex. 11, p. 4.6-11.)

If pile driving is used, noise levels at the nearest sensitive receptors could reach 86 dBA at M1 and 74 dBA at M2. This represents an increase above the daytime

ambient noise levels as great as 30 dBA at the receptors near noise monitoring location M1; the increase at the more distant receptors (noise monitoring locations M2, M3, and M4) would range from 6 to 17 dBA. Thus, the noise of traditional pile driving would exceed the City's weekday limit by 16 dBA at receptors near M1 and by 4 dBA at receptors near M2. This would create severe noise impacts. (Ex. 11, p. 4.6-11.)

Alternative pile driving technologies such as padded hammers, "hush" noise attenuating enclosures, vibratory drivers, and hydraulic techniques that press the piles into the ground instead of hammering them can reduce associated noise by 20 to 40 dBA. Use of these techniques would reduce pile driving noise impacts at M1 and M2 to levels that will comply with the City of Turlock Noise Ordinance. Therefore, if pile driving is performed in constructing the WEC, Condition of Certification **NOISE-9** requires use of these technologies to prevent adverse impacts and comply with the City ordinance. (Ex. 11, p. 4.6-11.)

Steam blows are necessary to clean debris from the feed water and steam systems. These typically constitute the loudest construction noise, potentially being as loud as 129 dBA at a distance of 50 feet. To lessen construction noise from this source, appropriate piping will be equipped with a temporary silencer; this will result in a 40 to 45 dBA reduction. Furthermore, a quieter steam blow process, such as QuietBlow™ or Silentsteam,™ can be used. Conditions of Certification **NOISE-4, NOISE-5**, and **NOISE-8** will limit noise from steam blows by prohibiting the use of high-pressure steam blows unless appropriately silenced; require implementation of a notification process to make neighbors aware of impending steam blows; and restrict such work to daytime hours. (Ex. 11, p. 4.5-12.)

Typically, construction of the linear facilities will impact individual receptors for only a few days. The evidence establishes that condition **NOISE-8** provides sufficient assurance that no significant impacts will result from this source. (Ex. 11, p. 4.6-13.)

2. Operation

The noise emanating from a power plant during normal operation is generally broadband, steady state in nature. During its operating life, the WEC will essentially be a steady, continuous noise source both day and night. Occasional brief increases in noise levels will occur as steam relief valves open to vent pressure, or during startup or shutdown as the plant transitions to and from steady-state operation. At other times, such as when the plant would be shut down for lack of dispatch or for maintenance, noise levels would decrease. The primary noise sources of the project include the gas turbine generators, the steam turbine generator, gas turbine air inlets, HRSG exhaust stacks, natural gas fuel compressors, electrical transformers, and various pumps. (Ex. 11, p. 4.5-16.)

The results of acoustical modeling contained in the evidence show the project would cause increases in the ambient four-hour average background noise level at each of the monitoring locations, as shown below.

**NOISE Table 3 – Projected Plant Operational Noise Increases (dBA)**

| Monitoring Location | Ambient Four-Hour Average Background ($L_{90}$)[1] | Projected Power Plant Noise Level ($L_{eq}$)[2] | Resultant Level $L_{eq}$[3] | Increase above Background[3] |
|---|---|---|---|---|
| M1 – Residence on Ruble Road | 54 | 63 | 64 | +10 |
| M2 – Residence on West Main Street | 50 | 63 | 63 | +13 |
| M3 – Across from residence on West Main at Washington Street | 58 | 55 | 60 | +2 |
| M4 – Residence on Washington Street | 46 | 60 | 60 | +14 |

[1]Source: Staff calculation based on applicant's hourly values (TID 2002a, AFC Tables 8.5B-1 through 8.5B-4)
[2]Source: Ex. 1, Table 8.5-14.
[3]Staff calculation
Source: Ex. 11, p. 4.6-16.

Thus, at least six residences (those at or near monitoring locations M2 and M4) will be subjected to nighttime noise increases of 13 to 14 dBA, a significant and likely annoying increase.

In order to reduce project noise impacts on these residences to an insignificant level (an increase no greater than 10 dB), noise emissions will have to be reduced at least 3 dBA toward the north (monitoring location M2) and at least 4 dBA toward the southwest (monitoring location M4). This can be accomplished by incorporating in the project design one or more of the following features (Ex. 11, pp. 4.5-16 to 4.5-17):

- relocating some plant equipment;
- enclosing some equipment in sound attenuating enclosures;
- erecting sound walls at the power plant, or near affected receptors;
- purchasing quieter version of some pieces of plant equipment, such as pumps or transformers; or
- installing exhaust stack silencers.

We do not specify which of these measures should be employed. We do, however, specify acceptable noise levels in Condition of Certification **NOISE-6** to ensure that impacts, including those from tonal noise, are minimized at monitoring locations M2 and M4. Worker noise exposure will be minimized through compliance with applicable LORS, implementation of a hearing conservation program, and use of ear protection (Condition **Noise-7**).

Finally, the evidence establishes the WEC will create no ground or airborne vibrations which are detectable off-site. (Ex. 11, p. 4.6-17.)

**FINDINGS AND CONCLUSIONS**

Based on the uncontroverted evidence of record, the Commission makes the following findings and reaches the following conclusions:

1. Construction and operation of the WEC will increase noise levels above existing ambient levels in the surrounding community.

2. Construction noise levels are temporary and transitory in nature and will be mitigated to the extent feasible by employing measures such as sound reduction devices and limiting construction to daytime hours in accordance with local noise control laws and ordinances.

3. Traditional pile driving activities would violate the City of Turlock's noise ordinance and constitute a significant adverse impact. Measures contained in the Conditions of Certification will assure that these activities are mitigated to below a level of significance.

4. Operational noise could cause significant adverse impacts to six or more residences located at monitoring locations M2 and M4. Measures contained in the Conditions of Certification will, however, ensure that these impacts are mitigated to below levels of significance.

5. The project owner will implement measures to protect workers from injury due to excessive noise levels.

6. The WEC will not create ground or airborne vibrations which are detectable off-site.

7. Implementation of the Conditions of Certification, below, ensure that project-related noise emissions will not cause significant adverse impacts to sensitive noise receptors.

The Commission concludes that implementation of the following Conditions of Certification ensure that the WEC will comply with the applicable laws, ordinances, regulations, and standards on noise and vibration as set forth in the pertinent portion of **Appendix A** of this Decision, and will not cause indirect, direct, or cumulative significant adverse noise impacts.

## CONDITIONS OF CERTIFICATION

**NOISE-1** At least 15 days prior to the start of ground disturbance the project owner shall notify all residents within one-half mile of the site and the linear facilities, by mail or other effective means, of the commencement of project construction. At the same time, the project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project. If the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the project site during construction in a manner visible to passersby. This telephone number

shall be maintained until the project has been operational for at least one year.

**Verification:** Prior to ground disturbance, the project owner shall transmit to the CPM a statement, signed by the project manager, stating that the above notification has been performed, describing the method of that notification, verifying that the telephone number has been established and posted at the site, and giving that telephone number.

## NOISE COMPLAINT PROCESS

**NOISE-2** Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints. The project owner or authorized agent shall:

- Use the Noise Complaint Resolution Form (below), or a functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;
- Attempt to contact the person(s) making the noise complaint within 24 hours;
- Conduct an investigation to determine the source of noise related to the complaint;
- If the noise is project related, take all feasible measures to reduce the noise at its source; and
- Submit a report documenting the complaint and the actions taken. The report shall include: a complaint summary, including final results of noise reduction efforts; and if obtainable, a signed statement by the complainant stating that the noise problem is resolved to the complainant's satisfaction.

**Verification:** Within 5 days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form with the local jurisdiction and the CPM, documenting the resolution of the complaint. If mitigation is required to resolve a complaint and the complaint is not resolved within a 3-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is implemented.

**NOISE-3** The project owner shall submit to the CPM for review and approval a noise control program. The noise control program shall be used to reduce employee exposure to high noise levels during construction and also to comply with applicable OSHA and Cal-OSHA standards.

**Verification:** At least 30 days prior to the start of ground disturbance, the project owner shall submit to the CPM the noise control program. The project owner shall make the program available to Cal-OSHA upon request.

## STEAM BLOW MANAGEMENT

**NOISE-4** If a traditional high-pressure steam blow process is employed, the project owner shall equip steam blow piping with a temporary silencer that quiets the noise of steam blows to no greater than 89 dBA measured at a distance of 50 feet.

If a low-pressure continuous steam blow or air blow process is employed, the project owner shall submit a description of this process, with expected noise levels and projected hours of execution, to the CPM who shall review the proposal with the objective of ensuring that the resulting noise levels will not exceed 45 dBA $L_{eq}$ measured at any of the four noise monitoring locations identified in the Application for Certification. If the low-pressure process is approved by the CPM, the project owner shall implement it in accordance with the requirements of the CPM.

**Verification:** At least 15 days prior to the first high-pressure steam blow, the project owner shall submit to the CPM drawings or other information describing the temporary steam blow silencer and the noise levels expected, and providing a description of the steam blow schedule.

At least 15 days prior to any low-pressure continuous steam blow, the project owner shall submit to the CPM drawings or other information describing the process, including the noise levels expected and the projected time schedule for execution of the process.

## STEAM BLOW NOTIFICATION

**NOISE-5** Prior to the first steam blow(s), the project owner shall notify all residents and business owners within one-half mile of the site of the planned steam blow activity, and shall make the notification available to other area residents in an appropriate manner.

The notification may be in the form of letters to the area residences, telephone calls, fliers, or other effective means. The notification shall include a description of the purpose and nature of the steam blow(s), the proposed schedule, the expected sound levels, and the explanation that it is a one-time operation and not a part of normal plant operations.

**Verification:** The project owner shall notify residents and businesses at least 15 days prior to the first steam blow(s). Within 5 days of notifying these entities, the project owner shall send a letter to the CPM confirming that they have been notified of the planned steam blow activities, including a description of the method(s) of that notification.

## NOISE RESTRICTIONS

**NOISE-6** The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not cause noise levels due to plant operation that exceed the values shown here, measured at two of the four monitoring locations employed in the Applicant's pre-application survey:

| Monitoring Location | Noise Due to Project (dBA $L_{eq}$) |
|---|---|
| M2 – Residence on West Main Street | 60 |
| M4 – Residence on Washington Street | 56 |

No new pure-tone components may be introduced. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Steam relief valves shall be adequately muffled to preclude noise that draws legitimate complaints.

A. When the project first achieves a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at the two monitoring sites. This survey during power plant operation shall also include measurement of one-third octave band sound pressure levels at each of the above locations to ensure that no new pure-tone noise components have been introduced.

   The measurement of power plant noise for the purposes of demonstrating compliance with this Condition of Certification may alternatively be made at a location, acceptable to the CPM, closer to the plant (e.g., 400 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the nearest residence. However, notwithstanding the use of this alternative method for determining the noise level, the character of the plant noise shall be evaluated at the nearest residence to determine the presence of pure tones or other dominant sources of plant noise.

B. If the results from the noise survey indicate that the power plant noise level ($L_{eq}$) at the affected receptor exceeds the above value for any given hour during the 25-hour period, mitigation measures shall be implemented to reduce noise to a level of compliance with these limits.

C. If the results from the noise survey indicate that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones.

**Verification:** The survey shall take place within 30 days of the project first achieving a sustained output of 80 percent or greater of rated capacity. Within 30 days after completing the survey, the project owner shall submit a summary

report of the survey to the CPM. Included in the survey report shall be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits and a schedule, subject to CPM approval, for implementing these measures. When these measures are in place, the project owner shall repeat the noise survey.

Within 30 days of completion of the new survey, the project owner shall submit to the CPM a summary report of the new noise survey, performed as described above and showing compliance with this condition.

**NOISE-7** Following the project first achieving a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility.

The survey shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations, sections 5095-5099 (Article 105) and Title 29, Code of Federal Regulations, section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure.

The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures that will be employed to comply with the applicable California and federal regulations.

**Verification:** Within 30 days after completing the survey, the project owner shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA and Cal-OSHA upon request.

## CONSTRUCTION TIME RESTRICTIONS

**NOISE-8** Heavy equipment operation and noisy construction work relating to any project features that lie within 300 feet of residences, including high pressure steam blows, shall be restricted to the times of day specified below:

| | |
|---|---|
| Monday through Friday | 7 a.m. to 7 p.m. |
| Weekends and Holidays | 9 a.m. to 8 p.m. |

Construction noise levels, measured at the nearest residence or business, may not exceed the following values:

**Construction Noise Limits**

| Time Interval | One and Two Family Residential (dBA $L_{50}$) | Commercial and Industrial (dBA $L_{50}$) |
|---|---|---|
| Mobile Construction Equipment | | |

| | | |
|---|---|---|
| Daily: 7:00 a.m. – 7:00 p.m. | 75 | 85 |
| Weekends/Holidays:<br>9:00 a.m. – 8:00 p.m. | 60 | 70 |
| Stationary Construction Equipment | | |
| Daily: 7:00 a.m. – 7:00 p.m. | 60 | 70 |
| Weekends/Holidays:<br>9:00 a.m. – 8:00 p.m. | 50 | 60 |

Haul trucks and other engine-powered equipment shall be equipped with adequate mufflers. Haul trucks shall be operated in accordance with posted speed limits. Truck engine exhaust brake use shall be limited to emergencies.

**Verification:** Prior to ground disturbance, the project owner shall transmit to the CPM a statement acknowledging that the above restrictions will be observed throughout the construction of the project.

**Pile Driving**

**NOISE-9** The project owner shall utilize quiet pile driving techniques such that noise from this operation, measured at any residence near noise monitoring locations M1 or M2, will not exceed 70 dBA $L_{50}$. Pile driving shall be restricted to weekdays only, between the hours of 7:00 a.m. and 7:00 p.m.

**Verification:** At least 15 days prior to commencement of pile driving operations, the project owner shall submit to the CPM a description of the pile driving technique to be employed, including calculations showing its projected noise impacts on residences near noise monitoring locations M1 and M2. This description shall include a statement that such pile driving will be performed only during the hours specified in this Condition of Certification.

## ATTACHMENT 1 - NOISE COMPLAINT RESOLUTION FORM

| |
|---|
| Walnut Energy Center Project<br>(02-AFC-4) |
| **NOISE COMPLAINT LOG NUMBER** _____<br><br>Complainant's name and address:<br><br>Phone number: _____ |
| Date complaint received: _____<br>Time complaint received: _____ |
| Nature of noise complaint: |
| Definition of problem after investigation by plant personnel:<br><br>Date complainant first contacted: _____ |
| Initial noise levels at 3 feet from noise source _____ dBA Date: _____<br>Initial noise levels at complainant's property: _____ dBA Date: _____<br><br>Final noise levels at 3 feet from noise source: _____ dBA Date: _____<br>Final noise levels at complainant's property: _____ dBA Date: _____ |
| Description of corrective measures taken:<br><br>Complainant's signature: _____ Date: _____ |
| Approximate installed cost of corrective measures: $ _____<br>Date installation completed: _____<br>Date first letter sent to complainant: _____ (copy attached)<br>Date final letter sent to complainant: _____ (copy attached) |
| This information is certified to be correct:<br><br>Plant Manager's Signature: _____ |

## C. SOCIOECONOMICS

This review of "socioeconomics" evaluates the effects of project-related population changes on local schools, medical and fire protection services, public utilities and other public services, as well as the fiscal and physical capacities of local government to meet those needs. The public benefits of the project including economic, environmental, and electricity reliability benefits are also reviewed. In addition, an environmental justice screening analysis is conducted to determine whether project-related activities would result in disproportionate impacts on low income and/or minority populations. The evidence of record is undisputed on this topic. (9/29/03 RT 13-14.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The construction phase is typically the focus of the analysis because of the potential influx of workers into the area. Socioeconomic impacts are considered significant if a large influx of non-resident workers and dependents occurs in the project area, thus increasing demand for community resources.

Stanislaus County, and its major cities Modesto and Turlock, are within a one-hour, one-way commute distance of the project site. Workers may live in this area as well as Merced, Mariposa, and Tuolumne Counties. Most construction workers are expected to come from Stanislaus and Merced Counties, with the bulk of the operational workforce from the former. (Ex. 11, p. 4.7-2.)

Actual construction is expected to occur over approximately 24 months, or from the first quarter of 2004 to the fourth quarter of 2005. Personnel requirements will be minimal during the mobilization and site-grading period (i.e., during the first 3 months of the construction period) and during the start-up and testing period (i.e., during the last 3 months of the construction period). The primary trades in demand will include boilermakers, carpenters, electricians, ironworkers,

laborers, millwrights, operators, and pipefitters. Construction personnel requirements will peak at approximately 277 workers in month 15 of the construction period. (Ex. 1, pp. 8.8-13 to 8.8-21.) Most construction workers are expected to commute to the project site and therefore will not increase the population of the area. The WEC will also require an operational workforce of about 21 workers. Most are expected to come from Stanislaus and neighboring counties. (Ex. 11, pp. 4.7-4 to 4.7-5.)

The evidence establishes that the required construction and operational workforce will not displace the existing population nor place an undue stress upon available housing. (Ex. 11, p. 4.7-5.) Similarly, the evidence shows that existing educational, police, medical, and emergency services will not be adversely impacted. (Ex. 11, pp. 4.7-6 to 4.7-7.)

The WEC's initial capital cost is estimated to be between $160 to $220 million; of this, materials and supplies will cost approximately $100 million. The anticipated payroll, as well as the purchase of materials and supplies during the construction period, will have a slight beneficial impact on the area. [33] About $2 to $4 million worth of construction materials and supplies will be purchased locally (within Stanislaus County). The total local sales tax expected to be generated during construction is $147,500 to $295,000. TID will also provide about $26 million in construction payroll. Assuming, conservatively, that 60 percent of the construction workforce will reside in Stanislaus County, it is expected that approximately $15 million of the payroll will stay in the local area. (Ex. 11, pp. 4.7-5 to 4.7-6.)

The annual operations budget is expected to be approximately $3.2 million, of which $2 million will likely be spent locally within Stanislaus County. In addition, there will be an annual maintenance budget of approximately $3.8 million. The WEC will also bring $1.3 million in operational payroll to the region.

[33] Public Resources Code section 25523(h) requires a discussion of a project's public benefits.

Since TID is a public agency, it does not pay property taxes to the County. However, as noted above, WEC will benefit the City of Turlock and Stanislaus County through the construction and operation payrolls, jobs created directly and indirectly, and sales taxes on locally purchased materials and supplies. (Ex. 11, p. 4.7-11.)

The following Table provides a summary of socioeconomic data and information, with emphasis on the economic effects of the WEC project.

| **SOCIOECONOMICS TABLE 1** | |
|---|---|
| Project Capital Costs | $160-$220 million |
| Estimate of Locally Purchased Materials | |
| Construction | $2-$4 million |
| Operation | $2 million |
| Estimated Annual Property Taxes | Not applicable. TID is a public agency. |
| Estimated School Impact Fees | TID is exempt. |
| Direct Employment | |
| Construction | 124 jobs |
| Operation | 21 jobs |
| Secondary Employment | |
| Construction | 88 jobs |
| Operation | 44 jobs |
| Direct Income | |
| Construction | $9,737,600 |
| Operation | $7,101,995 |
| Secondary Income | |
| Construction | $2,071,184 |
| Operation | $1,366,965 |
| Payroll | |
| Construction | Total-$26 million, $15 million in Stanislaus County. |
| Operation | $1.3 million to the region. |
| Estimated Sales Taxes | |
| Construction | $147,500 to $295,000 |
| Operation | $147,500 with $20,000 to places of sale. |

Source: Ex. 11, p. 4.7-12 (modified).

Finally, the evidence of record contains a screening analysis to determine whether environmental justice concerns are present in this case. (Ex. 11, p. 4.7-8.) The screening analysis assessed: (1) whether the potentially affected community includes minority and/or low-income populations; and (2) whether the project's potential environmental impacts are likely to fall disproportionately on minority and/or low-income members of the community.

Staff reviewed relevant 2000 Census data for the area within a six-mile radius of the site to determine whether low income/minority populations constitute more than 50 percent of the general population. This revealed a minority population of 38.89 percent by census block, with pockets of greater than 50 percent minority population as well as a low-income population of 16.65 percent within the same radius. The evidence does not identify any significant direct or cumulative impact upon these populations which are attributable to the project. (Ex. 11, pp. 4.7-8, 4.7-11.)

**FINDINGS AND CONCLUSIONS**

Based on the uncontroverted evidence of record, we find as follows:

1. The WEC project will draw primarily upon the local labor force from nearby counties for the construction and the operation workforce.

2. The project will not cause an influx of a significant number of construction or operation workers into the local area.

3. The proposed project is not likely to have a significant adverse effect upon local employment, housing, schools, medical resources, or fire and police protection.

4. The project will have a construction payroll of approximately $26 million.

5. WEC will result in local construction expenditures of $2 to $4 million, and local operational expenditures of about $2 million.

6. The project will likely result in increased revenue from sales taxes due to construction activities.

7. The project owner will recruit employees and purchase materials within Stanislaus County to the greatest extent possible.

8. The project will not have any disproportionately high adverse impacts on any minority or low-income populations.

9. Construction and operation of the project will not result in any direct, indirect, or cumulative adverse socioeconomic impacts.

We therefore conclude that the project construction and operation activities will create some degree of benefit to the local area. No Conditions of Certification are required for this topic.

# Appendix A: *Laws, Ordinances, Regulations, and Standards*

# Appendix B: *Exhibit List*

# Appendix C: *Proof of Service*